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PENNSYLVANIA GAME NEWS

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Cover Painting by
Vic Stephen

COVER: The covered bridge in this month's cover painting is a real bridge in Somerset County north of Ursina on the Laurel Hill Creek. The road across this picturesque structure leads to State Game Lands No. 111. No doubt many readers used this bridge recently on a hunting excursion.

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EDITORIAL . . .

You Lucky Fellow

MR. PENNSYLVANIA HUNTER, you are a lucky fellow. If you don't believe it, ask the 46,403 out-of-staters who paid $20 to hunt in Pennsylvania last year.

Sportsmen who complain about Pennsylvania's game supply or public hunting areas need only to look around to find most states with considerably less.

This commonwealth is a rich land for the men in search of a day in the field with gun and dog. He has over 5½ million acres of land open to public hunting to choose from. State Game Lands alone encompass 960,653 acres of good hunting country. The 216 tracts in 64 counties offer the state's best hunting for every legal game species in Pennsylvania.

Rudyard Kipling hit the nail on the head when he said, "When men and times have passed, the things that truly last are all here, in Pennsylvania, this morning."

Perhaps Mr. Kipling was standing on what is now a State Game Land when he was inspired to make that statement.

For those citizens who are not interested in the thrill of hunting, our State Game Lands, State Forests, and National Forests all offer great varieties of nongame creatures who enjoy the wilderness facilities established there for their much desired compatriots.

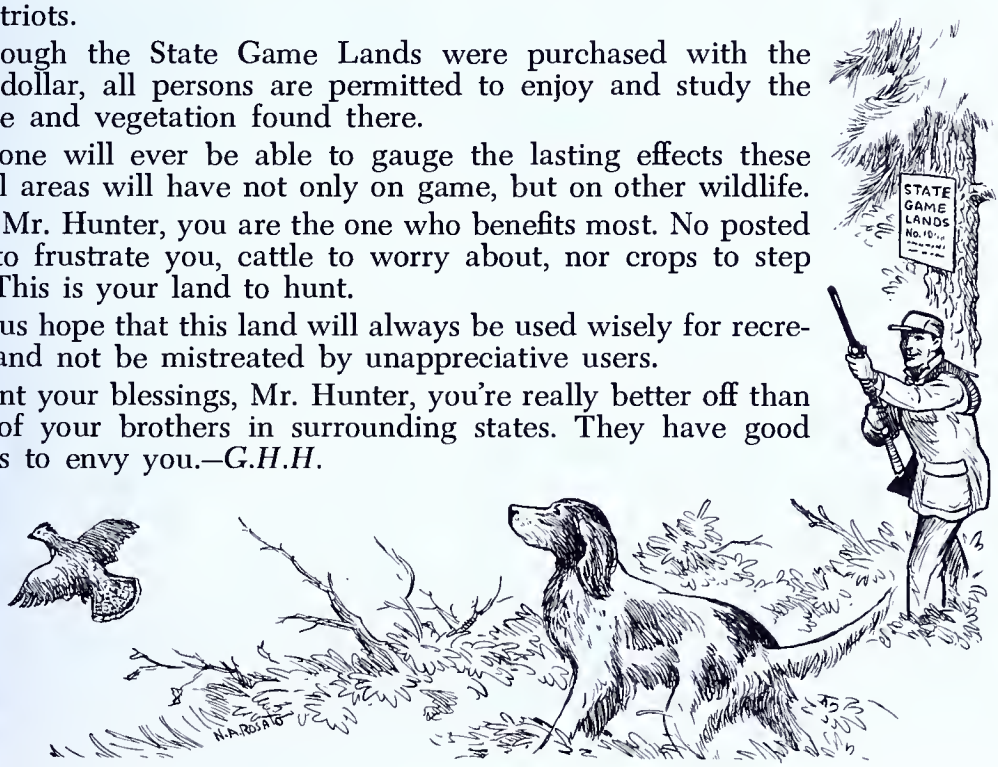
Although the State Game Lands were purchased with the game dollar, all persons are permitted to enjoy and study the wildlife and vegetation found there.

No one will ever be able to gauge the lasting effects these natural areas will have not only on game, but on other wildlife.

But Mr. Hunter, you are the one who benefits most. No posted signs to frustrate you, cattle to worry about, nor crops to step over. This is your land to hunt.

Let us hope that this land will always be used wisely for recreation and not be mistreated by unappreciative users.

Count your blessings, Mr. Hunter, you're really better off than some of your brothers in surrounding states. They have good reasons to envy you.—*G.H.H.*





WALKIN' SHOES

By NED SMITH

Waddling Wonders of the Wood Lot

1. What is a marsupial?
2. Opossums are strict vegetarians. True or false?
3. What is the opossum's gestation period?
4. What is distinctive about the opossum's hind foot?
5. Opossum fur is not valuable. True or false?
6. In what part of the United States is the opossum most plentiful?
7. The opossum has more teeth than any other mammal in Pennsylvania. True or false?
8. What is meant by "playing 'possum?"

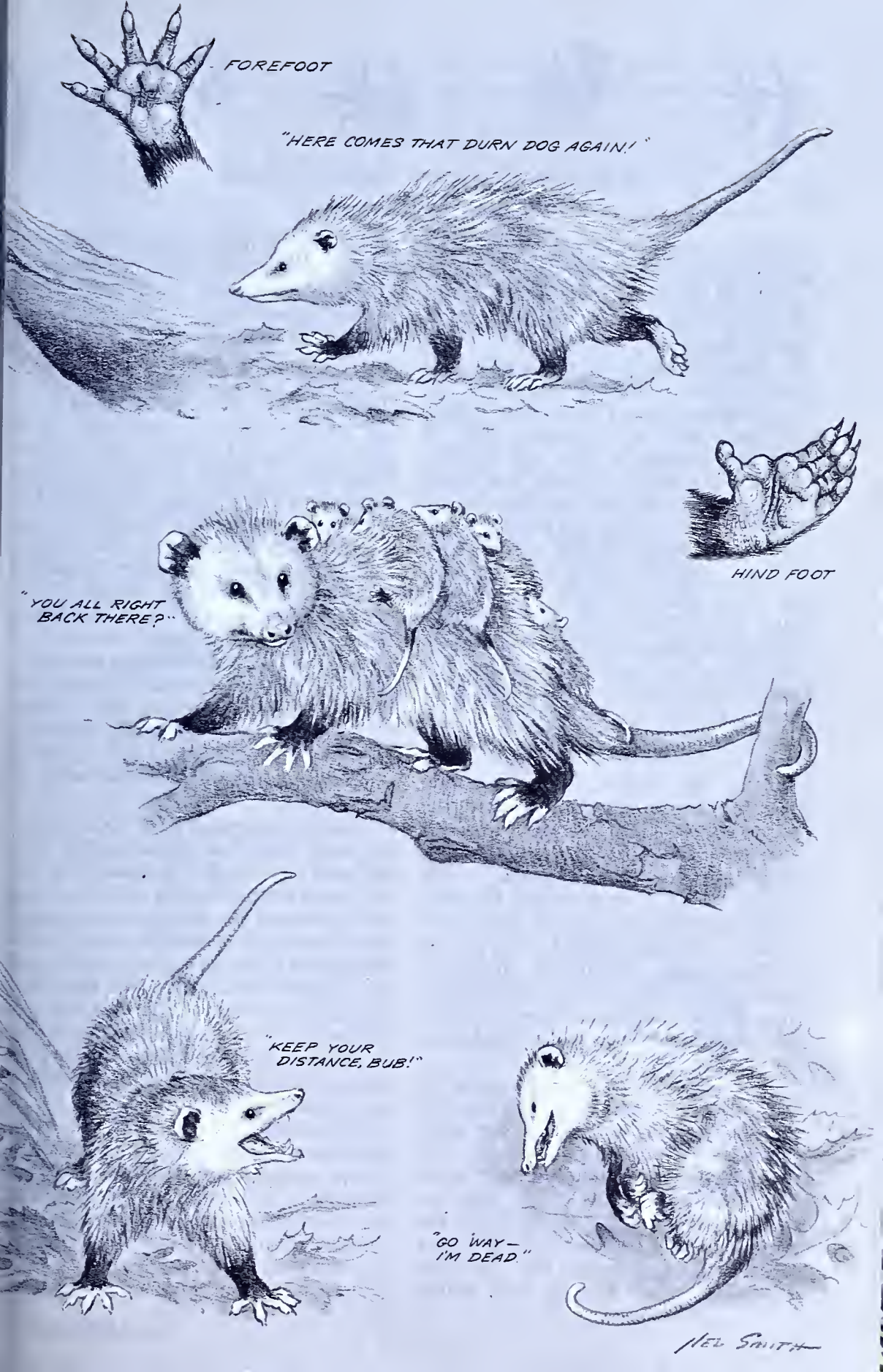
I STRUCK the trail near the forest's edge, a sinuous trough without detail or sharp definition in eight inches of loose snow. Its waggling course looked familiar, and when it reached a melted-down spot by a winter spring I was sure of its identity. Only a 'possum would leave those asterisk forefoot prints and hind prints with a thumb.

The trail led along an ancient stone fence, then disappeared at the base of a leaning dead chestnut tree. Looking aloft I quickly spied him, the dim-witted bumpkin of field and wood lot, gazing down at me from a tangle of grape vines high overhead. Ordinarily he'd have been snoozing in his den at this time of day but I suppose the lure of those frost-bitten grapes had proved irresistible.

He was a typical specimen, roughly the size of a house cat but fatter and squattier. His narrow head terminated in a long, pointed muzzle and bare, pink nose. The rat-like tail hooked lightly around a projecting stub like an extra hand. The hairless ears were black with flesh-colored tips and the feet, too, were black with whitish toes. His general color was pale gray, the effect produced by dense white underfur tipped here and there with black and a somewhat sparse coat of long white guard hairs.

Closer examination would have revealed a number of unusual features. The grinning mouth of the opossum, for instance, contains more teeth than any other American mammal – fifty. The hind feet, designed for grasping and climbing, have a strong, nailless, opposing thumb. The tail is strongly prehensile, especially in young animals, and is used as an aid in climbing.

Being a marsupial, or pouched mammal, the female opossum has a pouch on her abdomen in which the young are carried. This queer, fur-lined incubator is closed by a circular fold of skin, much as a bag is closed with a drawstring. The opossum is, by the way, the only marsupial in North America—mammals of this order being very rare except in Australia, New Zealand, and neighboring islands. Furthermore, it is Pennsylvania's most primitive mammal, having descended practically unchanged from marsupial


FOREFOOT
"HERE COMES THAT DURN DOG AGAIN!"
HIND FOOT
"YOU ALL RIGHT BACK THERE?"
"KEEP YOUR DISTANCE, BUB!"
"GO WAY— I'M DEAD."
NEL SMITH



ancestors that waddled about the earth millions of years ago.

One of the most remarkable things about this creature is the manner in which the young are born and cared for. The prolific cottontail's gestation period of thirty days would seem like an eternity to Mrs. Possum—her babies are born after only *thirteen* days. If you can imagine a tiny, red embryo about the size of a honey bee you'll have an idea what the newborn young look like. The little blunt head is fitted with a functional mouth and nostrils, but the eyes and ears still lie beneath the skin. The grub-like body terminates in a stubby tail and shapeless projections that will later be hind legs and feet. The forelegs, however, are well developed and studded with strong, sharply hooked nails.

For centuries naturalists have argued the question of how the young get into the pouch, and it has only recently been established that the young clamber into it under their own power, crawling over the mother's hairy abdomen with overhand "swimming" strokes of their sturdy forelegs. Upon reaching the pouch each baby 'possum attaches itself to one of the thirteen teats therein. If there are more young than teats—a not uncommon occurrence where litters number five to eighteen—the late arrivals simply perish.

"Refueling"' is a grim business for the infant 'possums and each remains steadfastly attached to the teat of its selection for about two months. At this age their eyes finally open, but it is several more weeks before they are sufficiently self-sufficient to leave the pouch for brief exploratory trips about Mamma's furry body. For the next few weeks they can be seen riding about on her back, clinging tightly to her fur or hanging from her forward-bent tail by their own tendril-like caudal appendages.

It would seem, from the appallingly small size of its brain that the opossum must surely be one of the most slow-witted of all mammals—and nothing it does indicates otherwise. The one questionably clever act it performs is the realistic imitation of death it employs when suddenly confronted with danger—sagging limply to the ground with eyes closed and tongue lolling in the dirt. Even its breathing and heartbeat become almost imperceptible. In recent years, however, naturalists have stripped the veil of glory from this last vestige of intelligence. "Playing 'possum," many of them declare, is nothing but a faint, or nervous shock—the totally involuntary reaction of a beast who's scared silly and too stupid to know what to do about it.

Not all 'possums play 'possum, to be sure. Most of them merely turn tail and run for it. The usual gait under such circumstances is a waddling trot in which the feet go much faster than the body. Really pressed, the pink-soled feet become a blur and the outstretched tail stiffly describes lopsided arcs and circles in the air. Generally, the critter has a hideaway in mind—a hole or hollow log, or perhaps a climbable tree — into which he'll escape.

Occasional 'possums refuse to be frightened. Last winter a friend and I saw one such individual snooping through a cornfield and hustled over to try for a few photographs. By the time we got there he was noisily grinding the grains off an ear of corn that lay on the ground. We approached to

within six feet, but he ignored us. We moved up to three feet. He grimaced and hissed, then continued his meal. The light was failing, so we took flash pictures—six or seven each—and he never even blinked. Other 'possums I've met have been just as unconcerned.

For all his stupidity, the 'possum is a most successful creature. In his dull, plodding way he has made fecundity and adaptability succeed where more intelligent animals have failed, and has steadily extended his range. Always most plentiful in southeastern United States he is now abundant in parts of Michigan, Minnesota, Colorado, New England and other northern and western states where he was formerly rare or unknown. Introductions have established the opossum also on the West Coast.

In Pennsylvania Br'er 'Possum is most plentiful in the southeastern part where his favorite mixture of farm land, wood lots, and winding stream bottoms predominates, but he calls all portions of the state home. He's no stranger to cities, either, where he manages to scrounge a living from gardens and garbage cans.

The opossum's home is generally an abandoned woodchuck, fox, or skunk den, a hollow log, or a crevice in a rock pile or stone fence. Here he sleeps during the daytime, wandering abroad after dark. In extremely cold or snowy weather he prefers to remain in the shelter of his den for several days until hunger forces him to hit the trail again. Incidentally, in colder climates his paper-thin ears and the tip of his naked tail are sometimes deformed by freezing.

Possibly the key to the opossum's success is his willingness to turn everything and anything into food. Beetles, ants, grasshoppers, worms, mice, bird eggs and nestlings, snakes, frogs, apples, corn, persimmons, berries of all sorts, and carrion of every kind and condition are but a few of the goodies he accepts. Although he occasionally stumbles upon an accessible bird nest or an unprotected flock of domestic hens the 'possum is not considered extremely destructive. He is too slow and clumsy to seriously compete with such accomplished predators as the fox, and the domestic fruits and grains he consumes are generally unharvested waste.

Ol' 'Possum has his natural enemies —chief among them the great horned owl, the red fox, and to a lesser extent, the gray fox. Domestic dogs are an ever-present menace. Because his flesh is not so highly esteemed in Pennsylvania as it is in Dixie, the opossum has little to fear from human hunters. His fur is of such inferior quality that trappers find him hardly worth the bother, but being keen of nose and dull of mind he is the first creature to blunder into sets intended for more valuable animals. For some strange reason foxes will seldom go near a set in which an opossum has been caught, so the fox trapper opening a line in new territory must first clean out all these potential set-spoilers before going to work in earnest. The major human predator, however, is neither the hunter nor the trapper. He is the automobile driver. And that's one enemy the grinning one just can't cope with. If by some miracle the four-wheeled monster misses him as he waddles across the highway he's just as likely to get squashed while



NEWLY-BORN OPOSSUM. ENLARGED PICTURE ON LEFT SHOWS RUDIMENTARY HIND LEGS AND WELL DEVELOPED FORE-LEGS. ON THE RIGHT —AN ACTUAL SIZE DRAWING OF NEWLY BORN YOUNG ON A PENNY.

making a meal of a road-killed rabbit or skunk farther down the road. From the carnage along some stretches of highway you'd think the 'possum population must surely be on the verge of extinction, but nothing could be farther from the truth. The Old Fossil has been around for several million years and he's not planning on disappearing from the scene just yet.

ANSWERS TO QUESTIONS

1. **A mammal that carries its young in a pouch.**
2. **False, they eat practically anything.**
3. **Twelve or thirteen days.**
4. **It has a thumb.**
5. **True.**
6. **Southeastern part.**
7. **True. Fifty, to be exact.**
8. **Feigning death.**

...Playing Hooky

By B. J. L. Shockley

Hunting season is quite an institution in Pennsylvania, U. S. A., and playing hooky to take part in that great American pastime in at least one of our fourteen State Colleges for training teachers is a wonderful sport and quite an excellent test in ingenuity.

Take, for instance, this set of excuses which bids a challenge to the time-honored fisherman's knack for telling tales absolutely and elastically true:

(1) A slight malady — Rabbit itch (Small game season).
(2) Upset. Pheasant flu. (Small game season).
(3) Buck fever (Deer season).
(4) Contracted the one-day virus (Deer season).
(5) Family troubles. Children have to be fed (Small game season).
(6) Field trip to Pike County and the North Mountain region (Deer season).
(7) Cross-country meet (Small game season).
(8) Job interview with C. A. Deare (Deer season).
(9) Five points and I missed (Deer season).
(10) Nature study: The Ecological Distribution of Mammalian Habitats (Deer season).
(11) Nature study: Noting the effect of the Odocoilus virginius borealis on the Betula lutea and the Betula lenta and the Acer saccarum. [I think this means the white-tailed deer on birch trees and the sugar maple.]
(12) Observation of the Ursus Americanus Americanus (Bear season).

1961 CONSERVATION DIRECTORY READY

The "1961 Conservation Directory," which lists the names and addresses of more than 700 international, national, regional, state and other conservation agencies and organizations is available from the Educational Servicing Division, National Wildlife Federation, 1412 16th Street, N.W., Washington 6, D. C. Offering broader national coverage than in former years, the 1961 Directory has more than 700 listings and provides the names and titles of more than 3,500 individuals associated with natural resources activities. Copies are priced at $1 each.



CROW CALLERS of this caliber can't be found in the store, but they are not impossible to obtain.

A Full-Proof Crow Caller . . .

Best Crow Decoys Are Pets

By Don Shiner

LOTS of hunters raise their own decoys for crow hunting. Field trips in May let them spot crow nests built of coarse sticks and twigs in the limbs of tall trees. Having located a high swaying "crow nest" they wait until the fledglings begin uttering their first squeaky call. Then the hunters scale the tree and lower a couple of young black birds to the ground. Already covered with black pin feathers and practically all beak and mouth, the youngsters eagerly accept the hunter as "mom crow" when bits of bread, insects and scraps of meat are poked down their throats.

Results are, within a month the birds are able to fly and shriek their sassy calls. They become tame as kittens, following the members of the family around the yard, and maybe thieving clothes pins, dust cloths and other small objects lying about. The crows become amusing pets.

Generally they will stay near the house when left to exercise their wings, but if uncaged for too great an interval, they'll hear the hoarse calls of wild crows and soon join the group in their nomadic life.

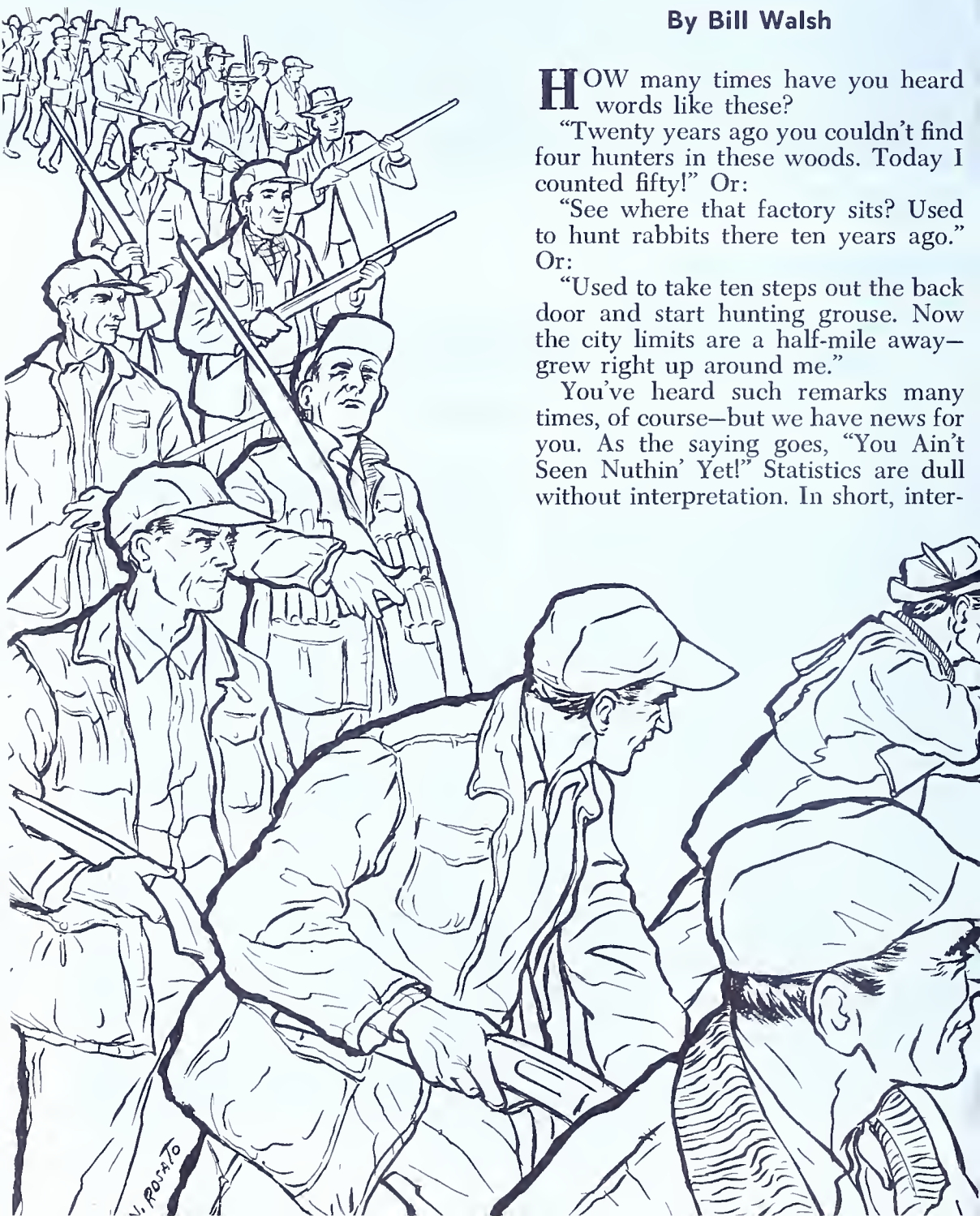
Come winter, hunters have well trained decoys for crow hunting. Tied to tree limbs or staked in open fields, the tame crows yelp greetings to their black feathered pals. With hunters concealed in well constructed blinds, crows are knocked out of the air in droves. The pets do not seem to mind luring their wild folks into the deadly gunfire and keep calling whenever taken afield.

Pet crows also offer a real system in learning how to blow a crow call expertly. Many practice to imitate the first cries of the fledglings, then keep practicing their language as they mature. Within a short time they have mastered the calling art.

But for either purpose, pet crows raised from youngsters will help you bag more crows.

With Hunting's Bright Future
There's But One Answer . . .

Move Over, Mr. Hunter



By Bill Walsh

HOW many times have you heard words like these?

"Twenty years ago you couldn't find four hunters in these woods. Today I counted fifty!" Or:

"See where that factory sits? Used to hunt rabbits there ten years ago." Or:

"Used to take ten steps out the back door and start hunting grouse. Now the city limits are a half-mile away—grew right up around me."

You've heard such remarks many times, of course—but we have news for you. As the saying goes, "You Ain't Seen Nuthin' Yet!" Statistics are dull without interpretation. In short, inter-

pretation of statistics on hunting license increases, population increases, land use increases, water use increases —with DEcreases predicted for nothing except elbow room—mean simply, Mr. Hunter, that you are going to have to "Move over!"

Hunting Interest Up

Pennsylvania hunting license sales hit a new high last year. Mirroring the interest in hunting and allied activities, so did the circulation of PENNSYLVANIA GAME NEWS. And so long as hunting remains the clean, healthful sport that it is, there is no end in sight—nor should there be. For who would deny his fellow man the pleasures of a day in the woods or fields with gun and dog? If hunters are to become more numerous, featuring more "first-time" converts each year, we must all learn to live with them and share and share alike.

But it won't hurt us to know what's coming and at what pace. It won't hurt to think a bit about what hunting will be like when more and more hunters want to join the fun. Or to realize that some of our younger readers will, in all probability, see the day with their own eyes when the numbers of hunters may be nearly double what it is today.

Population Explosion

How fast are the new citizens appearing on the face of the earth? How rapidly will they force us to take new stock of every resource?

Breathe in and out—just once. At the current rate of births over deaths, two new human beings yelled defiance at the world with infant lung power—in one universal language, telling all who hear that they're hungry. Breathe in and out for a whole minute. In that brief span of time, 25 new voices squawled notice to the rest of the world that they were here. Those cries mean, "Move over!"

Go to bed at night and sleep—fitfully or restfully—and rise in the morning. Between retiring and awakening, enough new souls were added to the earth's population to inhabit a small town. Unless you call approximately 37,000 people enough to inhabit a medium sized town. It's as rapid as that. And the pace increases like a runaway locomotive cannonballing down a mountainside, picking up momentum with every traveled foot.

Of course this rapid increase in population will put stresses and strains on more than hunting. The wisest conservationists will be called upon to wrest the last ounce of food out of the best soils and the last cup of clean water from streams and lakes no one will dare pollute. It will be to the everlasting credit of the hunter (and his brother fisherman) who led the fight for conservation in the past half century and that funds from their pockets were responsible for much of the research in its establishment as a science. For the fish and wildlife manager has always known that what is good for fish and game is good for man, too, and that essentially all life requires much the same basic conservation practices to survive.

When the pilgrims put their boot marks on Plymouth Rock, the world population stood at about 500 million. In the year A.D. 1, it stood at about 250 million—or, in other words, it required man some 1,620 years or more to double his population. Today the world population is pegged at about 3 billion. In the year 2000 it will hover slightly above 6 billion. In the next 40 years we will double our present population figure—a feat that required 1,620 years for our ancient ancestors. Do you dare entertain thoughts about our population size in the year 3000?

Death Rate Down

While populations may increase at a faster pace in some parts of the world where families are traditionally larger, higher living standards in the United States, which have increased

our tightened control over death in early life, will see U. S. rate of increase move along almost as fast. The importance of this knowledge is not merely to know it but to prepare for it: to hold some lands open for recreational uses and to preserve vital agricultural areas for the future load they must bear. Even highway sites might take into consideration the future agricultural value of the land—for corn won't grow on concrete. In fact, a recent highway construction project in northwestern Pennsylvania was moved south from its original planned site in order to preserve 1,500 acres of irreplaceable sandy-loam soil which nurtures a giant grape and fruit growing industry.

Standard of Living Up, Too

The standards of other peoples are rising, too. A century ago, the death rate among European children was almost 35 per cent while today it stands at less than ten per cent. Even among primitive peoples, where the child death rate used to be over 50 per cent, the rate has dropped so that, worldwide, the rate is less than 10 per cent today. People WILL be crowded into less and less space.

Just look at the population density in our own state in the past 20 years. In 1940, the population density was 219.1 persons per square mile. In 1950 it grew to 231.6 persons per square mile. Today it stands at about 251 persons per square mile. And don't forget—in India, which is considered crowded, there are 300 persons to the square mile. We're getting there!

Effect on Hunting

What will all this likely do to hunting as we know it? If we all know what's coming; if we all prepare for it; if we all recognize that hunting is worth preserving for those sons and grandsons, the pressures will be bearable. In fact, hunting can be just as pleasant and rewarding as it is today.

We are working on the premise, of course, that men of the future will want to hunt. Steady increases in the sale of hunting licenses indicate that this will be so.

Father-Son Participation

One reason for today's increased sales of hunting licenses is the father-son combination you see so often in the hunting field these days. More than any generation since the 1800's, the post-World War II crop of hunters is sharing the thrill of hunting with their youngsters—principally but not always sons.

As editor of the outdoor column in the Erie Times, this writer has for the past ten years now asked for the names of successful deer hunters to publish in a special column some weeks after the deer hunting season is over. We have noted a gradual increase in the reports from fathers who are reporting their sons' first deer kills —boys in the 12- to 16-year age groups. There is a "tone" about such notes that indicates the father is prouder of the son's accomplishments than his own. It is heart-warming to read these messages. We are convinced that the hunters involved are "sold" for life and that the youngsters will spread the contagion of the hunting fever to their friends and their own sons for many years.

Some 46,000 youngsters under the age of 16 hunted last year in Pennsylvania. Where will they all hunt tomorrow?

The Role of Shooting Preserves

There is some evidence that "paid" hunting in the regulated shooting preserves, or whatever modification of these shooting areas the future may have in store, will provide release for some of the pressures.

Lacking certain insight into the future, no one can say for sure what the role of the regulated shooting grounds will be. At this point it can safely be stated, however, that there has been some levelling off in the upsurge of

interest in these places. This may be a plateau or springboard from which future increased interest will come. Such places usually build up a "clientele" of steady customers and a certain percentage of others who try them once, never to return or to return only on occasion.

Apparently the operators of shooting preserves face the same challenge offered all businessmen who provide a service or product—the "product" in this case being an enjoyable day's hunt under conditions that provide recreational satisfaction at a price the hunter can afford to pay and will willingly pay again on the next trip out. When an operator reaches the maximum number of hunters he can service under the limitations of his hunting area and bird breeding facilities, he is at an economic standstill unless he can provide further profit-making services such as lodgings, meals, skeet and trap shooting, and processing of the game shot—plucking, freezing, packing for shipment, etc. Those who provide the most and best service will win out. And they will find themselves catering to the recreational wants of many of tomorrow's new hunters, of course.

No More Free Hunting

From a strictly objective viewpoint, except for those landowners whose holdings are large enough to supply adequate hunting areas for their own use without a hunting license under State Law, there is no such thing as "free" hunting any more.

State Game Lands, for example, are open to the public for hunting—but it was the hunting license dollar and other Game Fund income which bought the land and now maintains it and provides wildlife management services upon it. This is, of course, one of the biggest hunting "bargains" in the world but it is "paid" hunting to some extent—a kind of "paid" hunting, however, that makes each hunter who uses State Game Lands proud of the





individual part his own purchase of hunting licenses has played in it.

He can have the same pride when hunting on the many acres open to hunting through the activities of the Game Commission's Farm-Game Projects.

When hunting on state or federal forest lands, he knows that he is not there entirely scot-free; that his payment of state and federal taxes has some bearing on the matter and that he is part owner—as a citizen—of the ground on which he hunts. There is probably some room for hunter expansion on these lands because while many are well used, some of the tracts are large enough (like the Allegheny National Forest) that they can still absorb more hunters of the variety which like to use shank's mare in hunting.

Some of the foregoing is just one way of saying that hunters of today and tomorrow must be willing to support their sport; may be called upon to pay more for its preservation, and will have to be zealous in protecting their hunting areas and the systems of wildlife management which make modern-day hunting possible. For there will be frantic competition for land use and the hunter will be in the thick of it.

Effect on Game

What effect will all this human expansion have on game?

Of course, predictions, by species, of the effect of population pressures is strictly crystal-balling. Some things come to mind, however, which have bearing on the subject. To feed more people, some agricultural land now lying fallow may come into full use. This should have a beneficial effect on populations of the farm-game species like cottontail rabbits, pheasants, and quail. Almost every hunter has experienced that disappointing trek through the "biological deserts" which were producing farmland some 20 or 30 years ago.

Increased demands on timber stands for more wood and wood products may create more favorable conditions for deer, grouse, and snowshoe hares. Forest management practices leave some timber crop trees even on the pulpwood projects so that squirrels, bears, and turkey will also be assured of proper habitat. It may very well be that economical use of our forest lands may yet provide a more nearly perfect "all-around" habitat than single purpose stands which, in time, favor one game group over another.

Waterfowl Future Bright

Probably one of the brightest spots in future hunting opportunities in Pennsylvania is in the area of wild waterfowl – provided needed reforms in the duck breeding areas in the United States and Canada are brought about. Reason is that the Game Commission is concentrating on a program which will not only increase native waterfowl production but make Pennsylvania wetlands more attractive for migrating waterfowl and keep them

within the boundaries of our state for longer periods. Northwestern Pennsylvania will doubtless continue to lead in waterfowl hunting opportunities for the same reason it leads in beaver trapping—more wetlands. The attractions of Lake Erie, Presque Isle Bay, Pymatuning with its waterfowl refuge and controlled hunting system, Conneaut Lake, Edinboro Lake, Canadohta Lake, Clear Lake, Sandy Lake, French Creek, the Allegheny River—and the numerous resting and feeding places in thousands of tributaries—make this possible. Two other large areas will soon be added—the Erie Wildlife Refuge and the huge reservoir being planned at Kinzua in Warren County.

The reforms most desired in duck breeding areas consist of providing some kind of incentive to stop the drainage of potholes for agricultural purposes—which may get more difficult as growing populations need more food. This is largely a federal problem and a problem for our western states and at the present time it gets involved with such questions as: why subsidize drainage of wetlands to put more agricultural lands under the plow while, at the same time, retiring other lands from production under other federal programs. Perhaps it will be resolved satisfactorily. Setting aside duck stamp funds for the acquisition of wetlands under the control of the Fish and Wildlife Service may be part of the answer, but speed is needed daily to save these areas for production of wildfowl such as canvasbacks and redheads which are being adversely affected.

Bears and Rabbits

During the time that this article has been in preparation, we have been reading Jay Williams' splendid book of the outdoors entitled "Alaskan Adventure." We read it from cover to cover when it was first published in 1952, but the recent entrance of Alaska into the Union prompted renewed interest. The author first went into Alaska in 1903 and enjoyed it under some primitive conditions which have probably already begun to disappear in many regions and which may be destined to disappear in even remote areas as man increases his numbers.

It occurred to us that there is a direct relationship between hunting in Alaska for big Alaska brown bears, for example, to hunting rabbits in the woodpatch a few feet from my front door. Alaskan cities now stand on what was once the eminent domain of the brown bear a hundred years ago. Ten years from now my rabbit patch may be the site of new homes to satisfy the housing needs of the growing area in which we live. The land is already for sale for this purpose.

There is a double lesson, or moral, to be drawn. First, and most obvious, has to do with the "acres of diamonds" story we read in school books. In other words, enjoy what you have in your own territory and enjoy it to the fullest before it is gone or lessened. Second, and most important, is to encourage and support those in local, state and federal agencies who are farsighted enough to be making plans for future recreation areas. These must be set aside now—or they, too, will be gone.

"The Future"

Charles F. Kettering, the inventive genius, once said, "I am very much interested in the future. I expect to spend the rest of my life there."

So do hunters—and all our descendants who will be hunters. And we can be pretty certain that no matter what new developments take place to make life easier, healthier and longer out there on the horizon—when autumn comes, there'll be men and boys and guns and dogs taking to the fields and the woods. And it'll be just as much fun then as now.



The Story of Pennsylvania's Mountains

By Eugene R. Slatick

EVERY year thousands of Pennsylvanians visit the mountains to hunt, fish, or to find refuge from the hurried pace of today's society. To many, the mountains themselves are given little regard: They are just there. But there is much more to these rolling hills, the Appalachians; indeed, the trained eye discovers that they can tell an interesting story.

Today the Appalachians are like an old man, worn and inactive. Like the old man, they have had a birth, a period of growth (actually two growing periods), and a time of old age. They are millions of years older than the Rockies and, in the past, they were as lofty and as mighty as the Rockies are today.

But let us outline their biography by going back to the beginning of known geologic history, back more than 400 million years to a period of geologic time called the Cambrian. (Although the earth is about 4½ billion years old, geologists have only been able to deduce its history for a little more than the last 400 million years.) The Appalachians did not exist then; instead there was only a long, slowly subsiding basin or depression. To the east there was a high land area, named Appalachia, which was being worn down by erosion and its sediments (fragments of rock derived from the destruction of pre-existing rocks) were being deposited in the basin. There was also land to the west

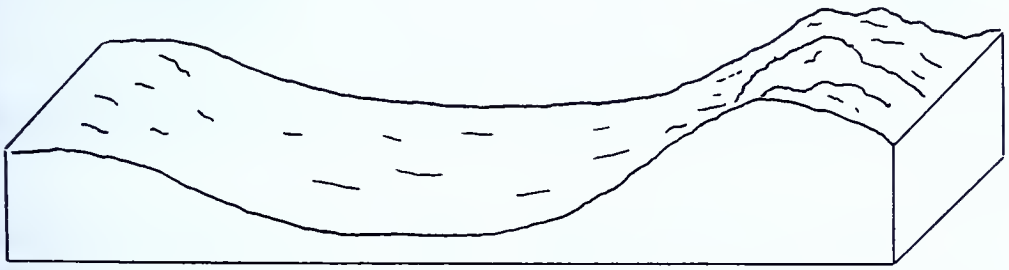
of the basin, but it was not as high as Appalachia and consequently did not contribute much sediments.

Millions of years passed, Appalachia was eventually worn down and the sea had periodically invaded and retreated from the basin. The Pennsylvanian period (named for Pennsylvania, the leading coal-producing state, because this was the greatest coal making time in the earth's history) began about 240 million years ago. This was a time when shallow interior seas advanced and retreated numerous times, burying the extensive swamps and thereby setting the stage for the formation of coal. This cyclic behavior of the sea explains why the more than 100 coal seams, some of which are very thin, overlie one another.

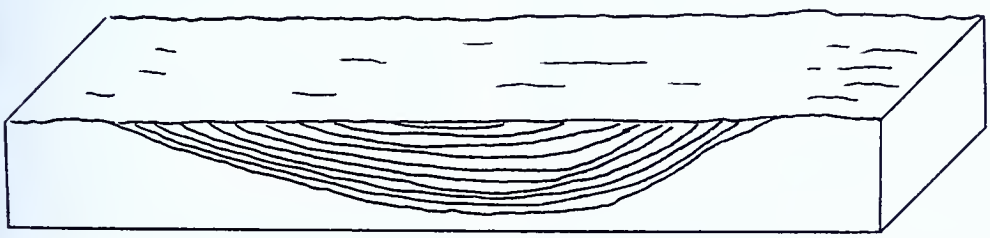
Twenty million years later at the end of the next geologic period, the Permian, something happened in the earth: The great basin that had existed for eons, and which had accumulated up to 30,000 feet of sediments, began to slowly rise and fold the rocks. The mountain building required millions of years and, when it was finished, rocks which had previously been deposited in a relatively flat manner were now contorted and raised to heights equal to those of the Rockies or the Alps. After 250 million years of gestation the Appalachians were finally born!

But even as the mountains were being uplifted the agents of erosion were attacking them until, 150 million years later, they were worn down to an almost flat plain which geologists call a peneplain. Some rocks were very difficult to erode and they remained somewhat higher than the flat, featureless plain which stood only a few scores of feet above sea level. The streams and rivers had done their work in eroding the rocks and they now slowly coursed their way to the sea.

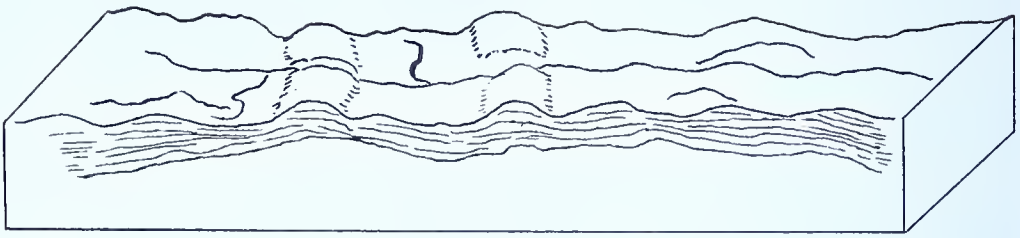
During the latter part of the Tertiary period (about 20 million years ago) another force began to operate in the Appalachian region. This time,



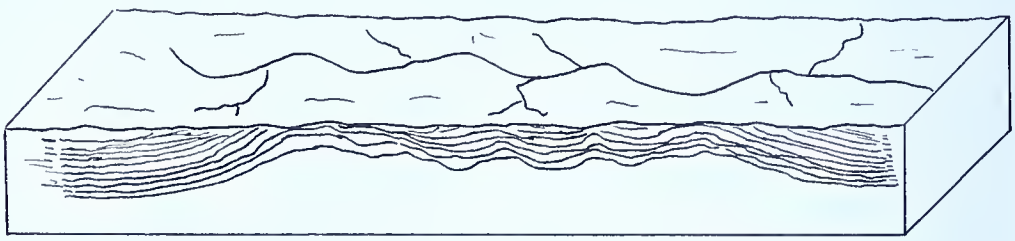
A large subsiding basin collects sediments from adjacent higher land areas.



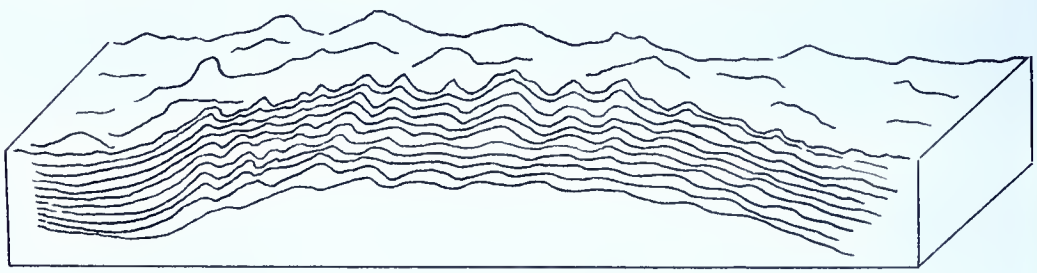
The basin is filled with sediments and the higher areas are worn down.



Some force pushes the basin upwards, folding the sediments and forming mountains.



The mountains are worn down and the land is essentially flat (a peneplain).



The land is slowly uplifted without folding. Streams erode the weaker rocks first, forming lowlands. Some streams maintain their course and cut through mountain ridges to form water gaps.

however, instead of being folded, the region was lifted vertically several hundred feet, some parts being lifted about 2,000 feet. The uplift was slow and the higher the land rose the more the streams and rivers gnawed at the rocks. Main waterways like the Susquehanna and Delaware Rivers maintained their courses and cut through mountain ridges to form what is known as water gaps (for example, the Delaware Water Gap and the gap near Harrisburg). The lesser streams adjusted their courses to the weak strata. Actually, the uplift of the land was not continuous but halted at least once, and when it did the streams and rivers began to erode laterally, forming small terraces. The next time you look at the mountains notice that their summits are all about the same elevation; what are now the mountain tops was once the surface of the peneplain.

The geological clock moved slowly on and the streams and rivers kept on cutting through the rock, trying to make an easy grade over which the waters could eventually flow to the sea. Things were relatively quiet.

Then, less than one million years ago, came the Peistocene epoch, or the "Ice Age," as it is commonly called. There were four times when the mile-high continental glaciers slid down

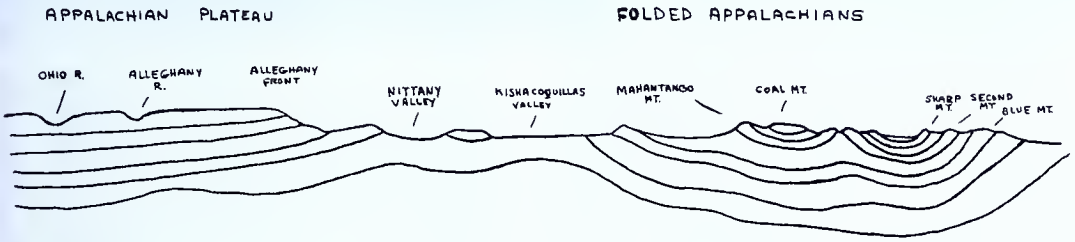
from the north, but it was only during the last two advances that the ice moved into the northern part of Pennsylvania. Each time the glacier retreated, the melting ice deposited a mantle of rock, picked up hundreds of miles away, on the landscape. Glacial drift, as the deposits of continental glaciation are called, usually contains rocks of many different kinds and sizes; it may contain clays, sands, or huge boulders.

And then some time following the glaciers, the Appalachians saw the coming of man. The mountains were to be revered, then explored, and then later to be exploited for the mineral wealth that had been stored for eons. But perhaps most important was that the mountains became home for many.

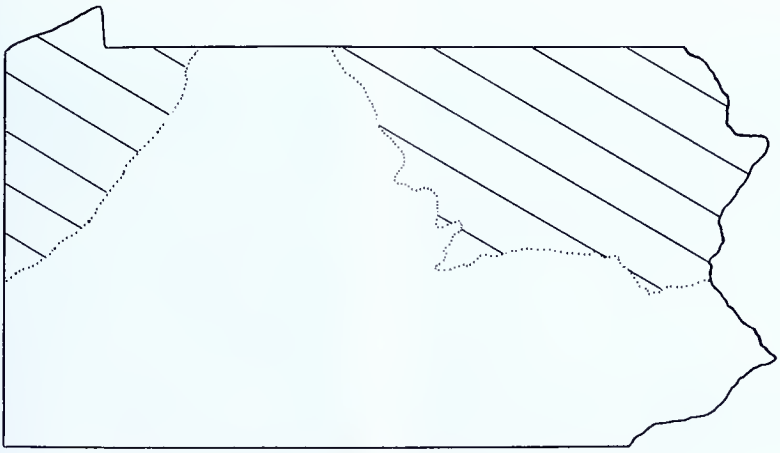
The story of the Appalachians is not yet complete. They may be worn down to another peneplain or they may be uplifted, no one can tell. Man's existence on earth is extremely short when compared to the history of the earth. Perhaps if he survives for a few million years, and continues studying the earth, he may be able to understand more clearly why the earth behaves as it does.

The Pennsylvania sportsman and outdoorsman may find it a pleasant pastime to begin noticing the rocks (and minerals) of his particular region. Among other things, he will learn that the harder rocks are more resistant to weathering and consequently form the ridges and higher parts of the mountains. The weaker rocks, since they are more easily eroded, form the lowlands and valleys. He will also notice that the kind of vegetation that grows in a certain area is controlled, in part, by the type of rock that is there.

And so, the next time you hunt, fish, or hike in the woods take a few minutes to look at the rocks and mountains more closely. They *can* tell you a story.



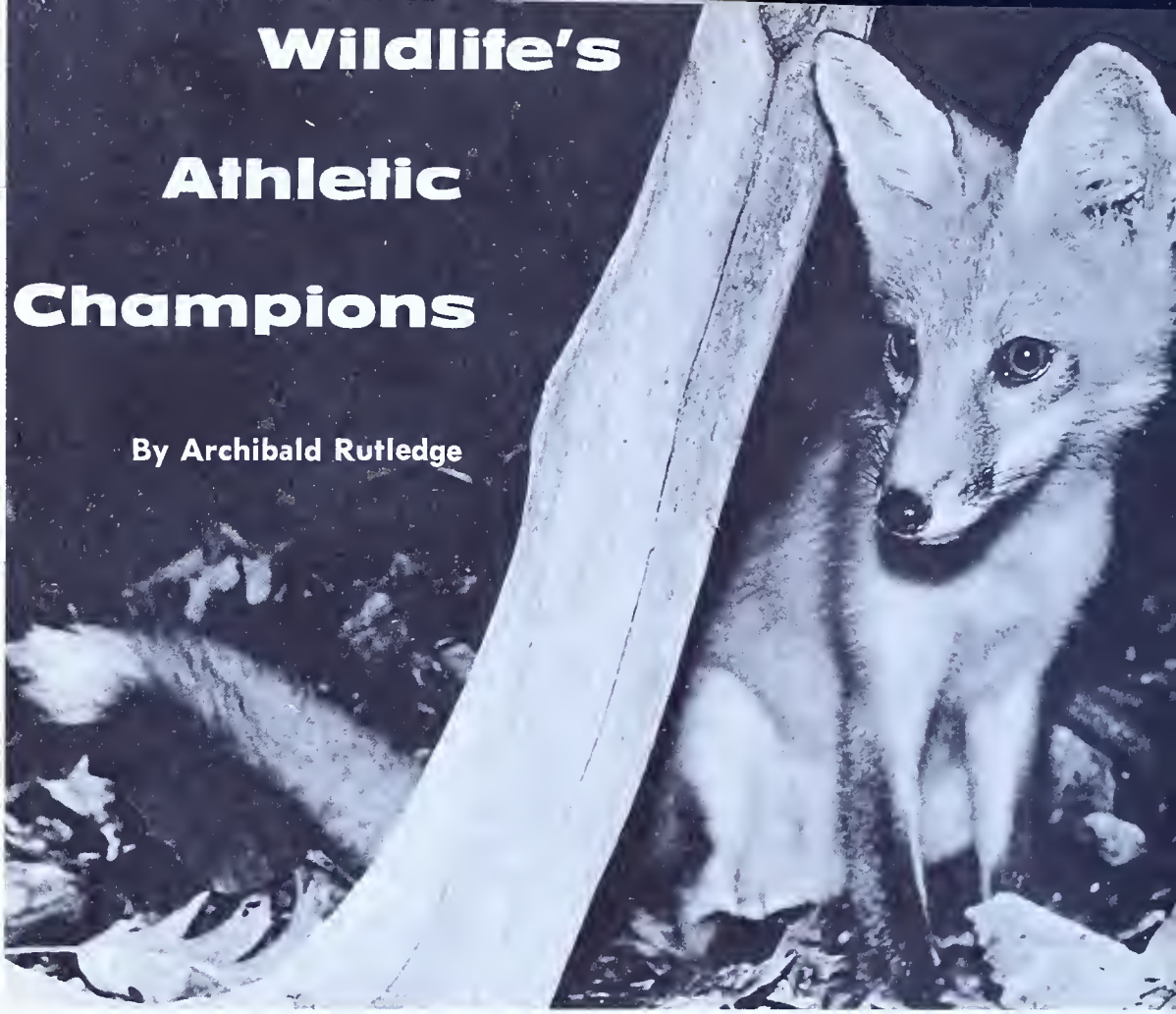
A cross section through the central part of Pennsylvania. Note that some rock formations can form several mountain ridges miles apart. The vertical scale is exaggerated.



The extent of glacial drift in Pennsylvania.

Wildlife's Athletic Champions

By Archibald Rutledge



WERE Mother Nature to stage a track meet with her wild children as the contestants, not only would all man-made records be broken, but certain birds and animals would emerge definitely as champions. Who, then, are the best performers among the creatures of the field, the forest, the plains, the marshes, the water, and the skies?

There is both a physical and a mental aristocracy in the natural world, a fact which becomes clear after only a little actual observation. Perhaps this idea of a track meet will be more easily understood if I describe some of the things I have actually seen wild creatures do in the way of making records.

One morning I was driving my car on a country road in Pennsylvania, near the mountains. Suddenly out of a brushy gully a spike buck leaped from his bed. There was a wire fence between us, beyond which was an open wheat field. He decided to run just inside the fence, parallel to the road. At the time the race started I had been driving about 30 miles an hour. As I increased my speed, the buck increased his.

The speedometer crept up to 35, to 40, 45, and then 47. As I stepped on it, so did the buck. I could not gain on him. When he was hitting 47 miles an hour, he seemed in no way to be extending himself. Before I could test him further, he jumped over the fence and into the road, then over the fence on the other side, and raced away down a hillside. His whole performance seemed something in the nature of a frolic.

Of course, what he displayed was merely a burst of speed; he could not have kept it up for long. But great track stars like Charlie Paddock and Jesse Owens did not have to keep up

their terrific pace for long, either. To show how fast the buck was going, a champion sprinter can do 100 yards in ten seconds; the deer was going about 220 yards in ten seconds, and as I say, he seemed to have plenty in reserve.

Once in the deep woods, when I was on horseback, I ran an old buck into a small natural inclosure that had been formed when a tornado had torn huge trees asunder and weirdly heaped them into what was almost a perfect circle. The obstruction was twelve feet high, but the stag vaulted out of the inclosure with no more effort than it takes a girl to run upstairs when she hears the phone ring and thinks her beau is calling. I don't know how high a deer can jump, but I am inclined to take these words from an old woodsman as an answer: "A deer can jump as high and as far *as he has to.*"

The only other wild animal in our country that can give the deer any competition in running is the prong-horn antelope, and I do not know one that can equal the whitetail as a jumper—not only a high jumper but a broad jumper as well.

I once started a buck out of some bulrushes on the edge of a seabeach. The stag ran over the dunes and down to the hard-packed sand near the surf. There, although he apparently was not badly frightened and certainly was not pursued, he gave some fancy bounds—possibly just to show off. Because of the damp sand, the length of these leaps was easy to measure. The longest was half an inch short of 33 feet. A horse has been known to jump approximately 40 feet, and I know a deer can outjump any horse. All he needs is the proper incentive. And he is not only a running broad jumper but also a standing broad jumper. Repeatedly I have measured jumps that deer have made either from a standing or a lying down position. Sixteen feet is not unusual, and I have measured one of 24½, up a slight incline.

I have long since concluded that this amazing agility, this romping over distances, is partly a matter of perfect health, for wild creatures never break training. As a result, their speed, stamina, and floating grace can be turned on at a second's notice. Almost every day many of them survive crises of life or death by the perfection of their condition and their fluid coordination. Birds and animals live temperately; they loaf much and rest much; they also have regular hours and habits. They never go off on benders. The result is that when emergencies arise, the animals are ready.

If one event of this track meet were a contest of speed in the air, there would be some real competition. The

SWIMMING MEDALS go to the playful otter. Related to the weasel and mink, he is a valuable fur bearer.



SPEED of the white-tailed deer would be hard to beat by any animal in Eastern United States.



superb duck hawk, almost identical with the famous peregrine falcon of falconry, is supposed to be one of the swiftest of all birds. But I have seen him vainly pursue the Wilson's snipe, or jacksnipe. The game bird's escape may have been due to a dazzling combination of speed and dodging skill, but the outcome of the contest was that the falcon lost.

Most wild ducks fly at from 30 to 40 miles an hour; when they really put on steam, they can go up to 50, especially smaller species such as the teal. But the bald eagle can overhaul any duck with lordly and supercilious ease. I have often seen him do it. He prefers to catch cripples, as he does not like exertion, but when he is in the mood he is capable of amazing speed, and his air maneuvers are characterized by a massive grace.

It would be natural to suppose that predators are swifter than their prey, but this is not the case. Predators usually have to combine speed with craft, and they rely a great deal on the advantage to be gained by a sneaking, surprise attack. Hawks lurk in conifers to pounce on quail and grouse. Foxes and wildcats waylay wild turkeys. The raccoon, the opossum, the mink, and the weasel approach their prey under cover of night. The owl, whose whole life is one long career of murder, is not a fast flyer, but, he is silent on the wing, and he sees well in the dark. Yet even the owl is often outmaneuvered by his intended victim.

At twilight one day late in February I was deep in the heart of a moldering cypress swamp. I was hunting wild turkeys, and one good way to do this is to sit still in a likely place and wait for them to come along. While waiting in this manner one often sees things that repay him for his trip, even though he may go home



BIRDS IN FLIGHT beat anything man-made. Flocks of birds, sometimes numbering into the hundreds, can execute a maneuver in perfect concert.



SILENT BUT SWIFT the barred owl can attack its prey at great speeds, at night, and with little or no noise.

empty-handed. At this particular spot I was amazed at the number of gray squirrels I saw. There were at least twenty in sight at one time. But as the dusk deepened, they disappeared into their holes. I heard a mother squirrel calling from an old den tree, and the object of her solicitude was evidently a tiny squirrel, scarcely half-grown, who was feasting on the blooms of the redbud maple. Not far off I saw a barred owl, and I could tell that he had his eyes on the little squirrel.

Suddenly the owl launched himself like a silent projectile. The young gray squirrel saw what was coming, dropped under the limb on which he had been perched, and hung there by his forepaws, like the man on the flying trapeze. The owl flashed past the limb, his speed carrying him some distance beyond. Before he could right himself and attack again, the baby squirrel was safe at home—and getting a regular old-fashioned scolding from his mother.

Of the many things in nature that remain mysteries to me, one is the way in which large flocks of birds, sometimes numbering several hundred, execute an aerial maneuver in perfect concert, with apparently no orders or directions given, and traveling at blinding speed. It is amazing, for example, to see a flock of 200 bluewing or green-wing teal circle to light, flare wildly, and draw down again, all in rhythmic unison, not a bird out of line, out of step, or in the way of his nearest neighbors. Birds as common as blackbirds puzzle the observer by the way in which serveral thousand of them will go through all the maneuvers of a dress parade in the air with no officers to direct them and no brass bands to give them the tempo.

Perhaps the most thrilling event of the Olympic Games is the marathon run. In nature, too, we find marathon performers. One of the most remarkable of these is the ordinary chimney swift, which is on the wing in rapid flight practically from daylight until dark. While all birds of this family fly with buoyant ease and grace, the swift appears to have tireless endurance. Vultures remain for many hours in the air, but it is notable that they do not like to fly on still days. What makes their flight easy is their ability to take advantage of air currents. In periods of migration many birds, notably those of the plover family, fly

1,000 miles or more without rest, making as it were a streamline nonstop flight from New York to Miami.

Walt Whitman probably exaggerated, in writing of the man-of-war bird—

> "At dusk that look'd on Senegal;
> At morn, America."

Yet this bird of the ocean wastes, with its comparatively light body and its huge wingspread, is a true marathon performer. From Florida to almost any of the West Indies, for it, is just a casual flight.

Cross-Country Runner

Among animals, endurance varies with the species and with the individual. Sometimes there is a great difference between types within a species, as is the case with foxes. The gray fox has not much endurance, or else he is lazy, for he will not run long. But the red fox is a true cross-country runner. I have known one to run full twelve miles over mountains, in as straight a line as he could find, without ever once turning. And there is a record of a red fox that wore out two successive packs of hounds by running for nine hours at a stretch.

In our human track meets there is no event in which mere agility is tested. I suppose that in nature the prize must go to the bighorn sheep or to the Rocky Mountain goat. For when we consider agility we somehow think of sure-footedness, and there is no other animal to compare in that respect with these pacers of the brows of beetling precipices and narrow ledges above abysmal chasms, these dwellers amid crag and avalanche.

A Great Swimmer

When it comes to the performance of wild animals in the water, hang the medal on the otter. The mink also is a graceful swimmer, but he has not the otter's speed and power.

I well remember how, during a time of flood, when I had gone out in a boat on the drowned delta to try to rescue some stock, an otter staged a performance in violent contrast to what all the other wild things were doing. The great freshet was rolling toward the sea, carrying with it old logs, rafts of sedge, and a thousand swimming and drowning creatures, wild and tame. Practically all were being swept downstream. Then I saw a black form breasting the current. It was an otter, swimming against the mighty freshet about as fast as the distracted fugitives were going downstream. Although it was a windy and sleety day, the otter did a little romping, apparently just for the fun of it. I saw a huge cypress log bearing down on him. Gayly he dived under it, came up nonchalantly on the other side, still heading steadily westward against that primeval flood. I do not know another wild creature that could or would have done what seemed just a matter of course to him. The otter's swimming is the performance not only of a champion but of an artist.

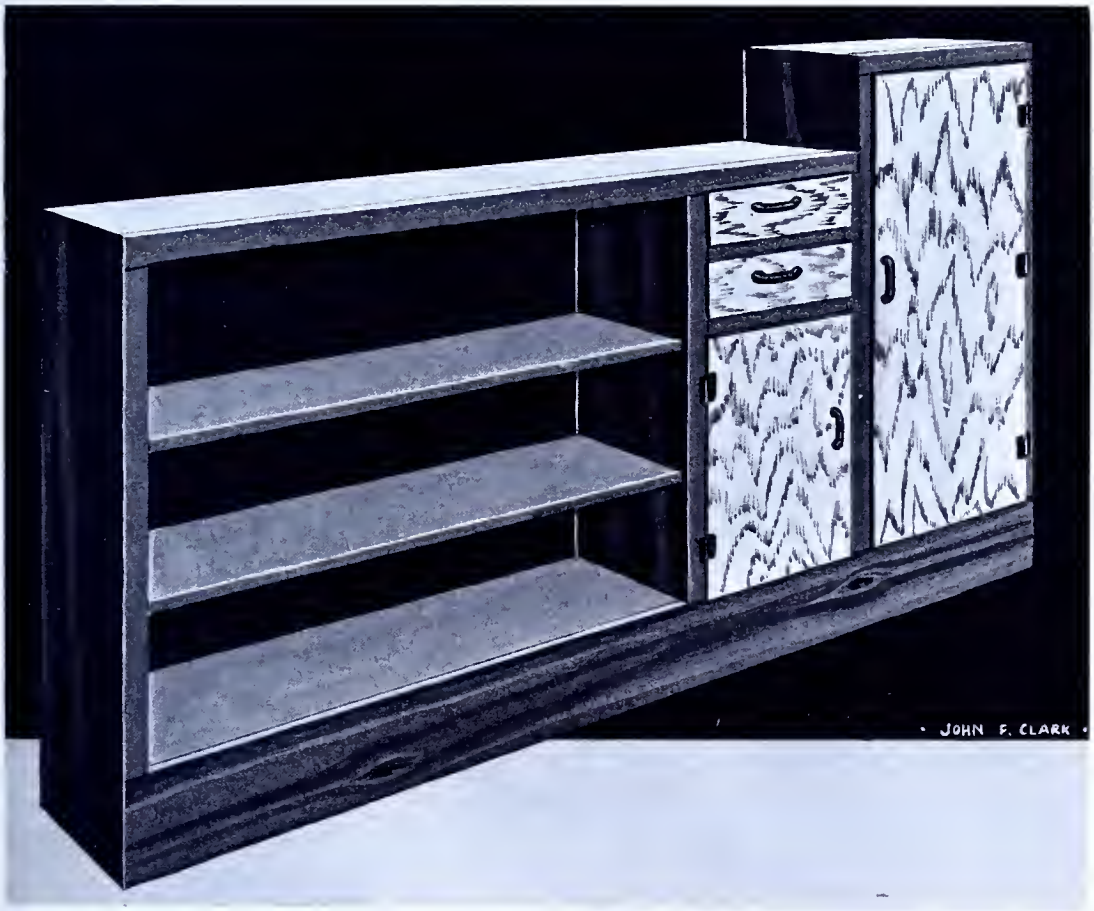
Birds Are Most Graceful

If there were a contest in grace, a bird would take all the honors, and this bird would be the marvelous swallowtail kite. Although the hummingbird is the only bird that can fly straight up and down, sidewise, and backward, his flight is difficult to observe, for he is forever aerially dancing, waltzing this way and that, or else speeding like a bullet in a beeline. But the kite is not only a large and exceedingly beautiful bird, with its snowy and black plumage, but its maneuvers are usually performed above the treetops where, it circles, sweeps, and rises buoyantly, uttering its plaintive notes.

I have seen one swoop to earth from a height of 400 feet, seize a small lizard or snake, and rise again to an equal height, all in one motion, its flight being truly the perfection of elegance and infinite grace. And with its dexterity it displays an exuberance of spirit that never fails to lift the heart of the beholder.

COMBINATION GUN, STORAGE AND BOOK CABINET

By John F. Clark



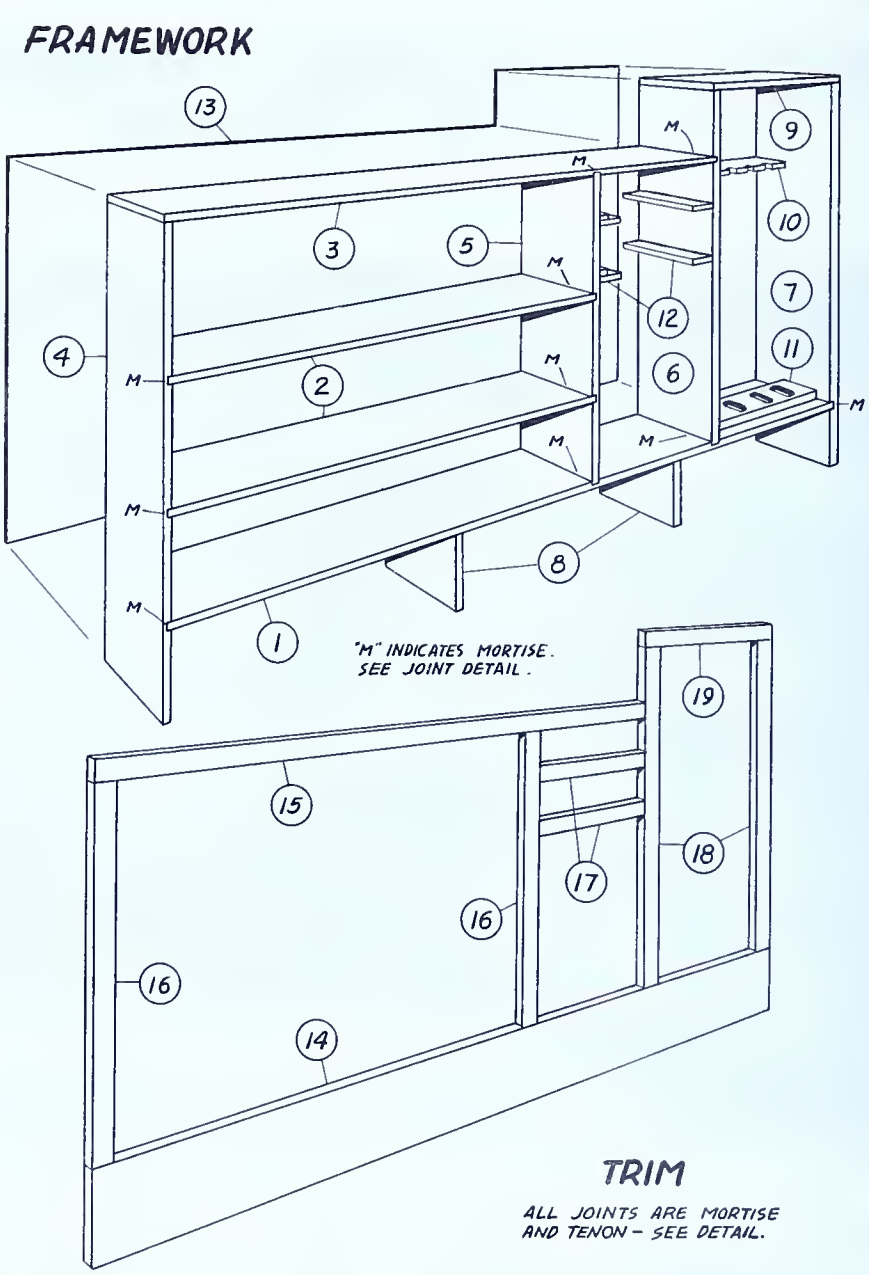
WHITE pine and plywood are the ingredients in this outdoorsman's Combination Cabinet. The natural finish adds a nice touch to the sportsman's den or workshop.

After watching my favorite firearms collect dust in a corner I finally came to the conclusion that I needed a gun cabinet. While designing the gun cabinet I also discovered that I had a large collection of hunting, fishing and outdoor books scattered all over the house. So, in the blueprints, I also included book shelves and a small cabinet with drawers to accommodate odds and ends of hunting and fishing equipment.

Here's a complete list of all the materials you'll need. Refer to the numbered parts in the drawing.

FRAMEWORK

1—1 Pc.—¾″ x 11¼″ x 9′ 5¼″ .... White Pine
2—2 Pcs.—¾″ x 11¼″ x 60″ ..... White Pine
3—1 Pc.—¾″ x 11¼″ x 84⅜″ ..... White Pine
4—1 Pc.—¾″ x 11¼″ x 47¼″ ..... White Pine
5—1 Pc.—¾″ x 11¼″ x 40″ ..... White Pine
6—1 Pc.—¾″ x 11¼″ x 49⅝″ ..... White Pine
7—1 Pc.—¾″ x 11¼″ x 57¼″ ..... White Pine
8—2 Pcs.—¾″ x 11¼″ x 7¼″ ..... White Pine
9—1 Pc.—¾″ x 11¼″ x 30″ ..... White Pine
10—1 Pc.—¾″ x 4″ x 28½″ ..... White Pine
11—1 Pc.—¾″ x 8″ x 28½″ ..... White Pine
12—Drawer Guides and Rails:
4 Pcs.—¾″ x 3″ x 11¼″ ..... White Pine
2 Pcs.—¾″ x 1¼″ x 11¼″ ..... White Pine
13—⅛″ Hardboard back is cut to size after frame is assembled.



TRIM

14—1 Pc.—¾″ x 8″ x 9′ 6″	.....	White Pine
15—1 Pc.—¾″ x 2″ x 85″	.....	White Pine
16—2 Pcs.—¾″ x 2″ x 40″	.....	White Pine
17—2 Pcs.—¾″ x 2″ x 24″	.....	White Pine
18—2 Pcs.—¾″ x 2″ x 50″	.....	White Pine
19—1 Pc.—¾″ x 2″ x 30″	.....	White Pine

DRAWERS (2 required)

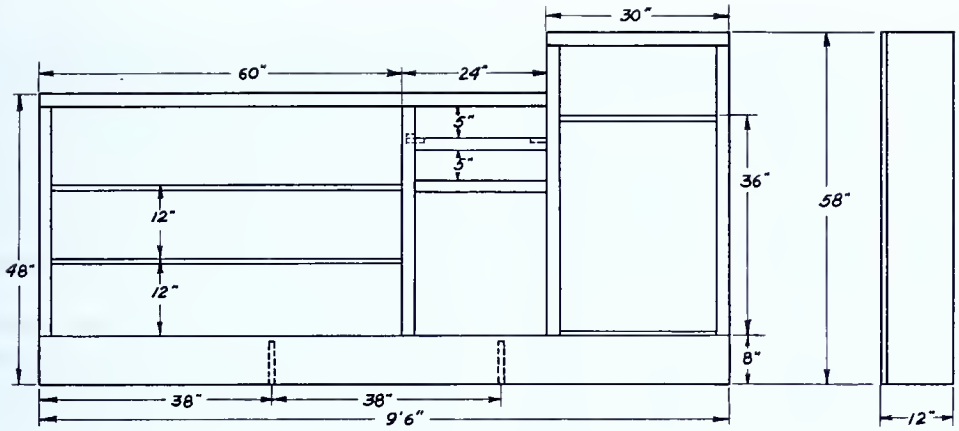
1—2 Pcs.—1″ x 5¾″ x 22¾″	.....	Plywood
2—4 Pcs.—¾″ x 4¾″ x 11″	.....	White Pine
3—2 Pcs.—¾″ x 6″ x 21⅛″	.....	White Pine
4—2 Pcs.—¼″ x 9⅞″ x 21⅛″	.....	Plywood

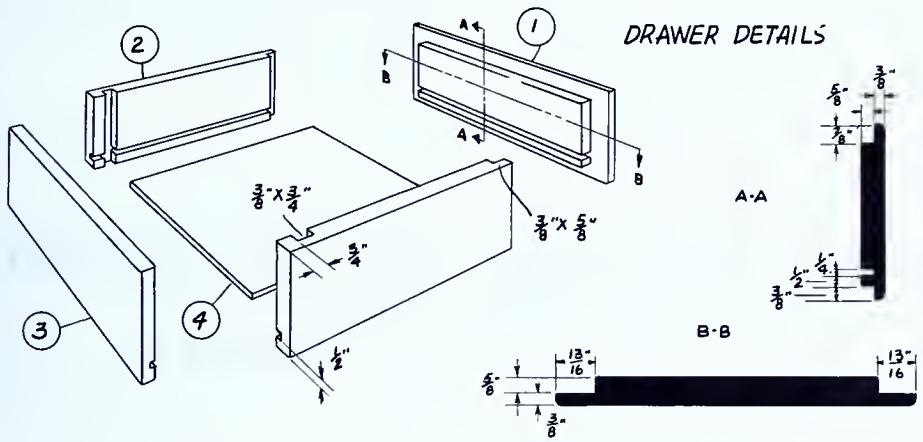
DOORS

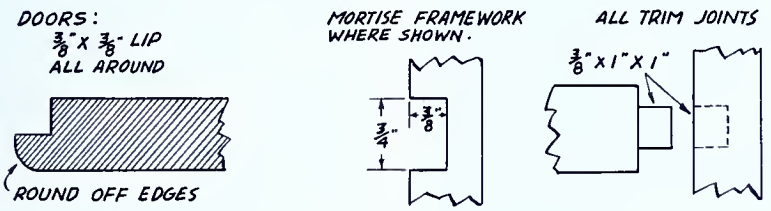
1 Pc.—¾″ x 26¾″ x 48¾″	.....	Plywood
1 Pc.—¾″ x 22¾″ x 24¾″	.....	Plywood

HARDWARE

3 Hinges for large door
2 Hinges for small door
4 Door and drawer pulls
2 Door catches
6d Finish nails
Glue
Wood putty or plastic wood
Sandpaper—medium to fine
Shellac
Varnish







CONSTRUCTION

First—remove the baseboard along the wall where you are going to build. Check to be sure the wall and floor are level and square. If they're not you'll have to make allowances in the dimensions. We started by cutting out and assembling the framework. Before putting the frame in place, we cut the hardboard back to size and nailed it in place. Then place the frame in position and nail it permanently to the wall. We didn't attach the drawer rails and guides until the trim was in place. Trace around the butts of your weapons on part No. 11 and cut openings with a jig saw. Cut barrel grooves in part No. 10. Then nail these two pieces to the frame. There's plenty of space for six weapons. (I have five rifles and one double-barrel shotgun.)

Next cut out and assemble the trim. Allowance has been made in the materials list for the 1" tenon. (And also for the mortises in the frame.) Use glue at all the joints, and after it has

set, nail the trim to the frame. Countersink and fill the nail holes. Then sand thoroughly, beginning with medium sandpaper and finishing with fine. You can apply the finish now, and while it's drying, work on the drawers and doors. The finish consists of one coat of shellac and two coats of varnish. Sand lightly with fine sandpaper between coats.

Cut out the drawer parts and assemble. The high back on the drawers serves as a check, so that they can't be pulled out after they're in place. You might have to round off the lower back edge of the drawers in order to insert them in the openings. Sand and apply the finish. When dry put the drawers in place. Next, cut out, sand and varnish the doors. Attach the hinges and fasten the doors to the cabinet. Attach the door catches. If you intend to store ammo or loading components in the cabinet it might be a good idea to install locks in the doors and drawers.

The completed unit fills one entire wall of my small studio. And naturally, since all rooms aren't the same size, you can change the dimensions to fit your own particular needs.

We believe you'll have fun building this useful addition to your den or workshop. Good luck.

Johnny Appleseed Walks Again— In Schuylkill County

By Harvey R. Frantz



A LITTLE EFFORT while hunting may make a big difference in the woods of Schuylkill County.

EVERY sportsman who purchased a 1961 hunting license in Schuylkill County had the unique opportunity of helping reforest his hunting grounds during the gunning season. The efforts of one nimrod may not seem significant but the combined efforts of 23,000 sportsmen can be very significant. When a 1961 hunting license was bought from any of the forty-odd issuing agents throughout the county, a small packet containing 10 to 15 white pine seeds was presented to the purchaser along with the license.

On the packet were the following directions for planting the pine seeds during the fall and winter: "While in the woods, in open places on good soil where shade is not heavy, scrape away the leaves on a place as large as your hat. Drop two or three pine seeds and press in the ground with your foot. Next spring a new pine tree may start

growing." It goes on to say: "The owner of the land will appreciate your thoughtfulness, you will help reforest Schuylkill County. KEEP SCHUYLKILL COUNTY GREEN."

On the opposite side of the packet is a message addressed to the sportsman requesting that he plant the pine seeds and help keep good timber growing in their hunting and fishing area. There is also a brief message on preventing forest fires. The sealed packets are transparent making it possible to see the small, almost triangular, seeds inside. The lettering is in green and catches the eye immediately.

The idea for this reforestation program originated with the Schuylkill County Rural Development Forest Resources Committee. White pine was chosen because it is a natural species and is tolerant enough to stand partial shading. Normally the white pine tree disperses its seeds during September and October which coincides nicely with the hunting season. When mature, this tree is the largest conifer in the northeast United States. It can readily be recognized by its five blue-green needles in a cluster, the only 5-needled pine in the east. The cones are long and narrow and measure from 4 to 8 inches. For such a large tree, the seeds are small, averaging approximately 27,000 to the pound.

The committee responsible for this project has, among its members, a district forester, a county agent, a county commissioner, businessmen and sportsmen. The cost of the seed and packets amounted to several hundred dollars. This money was donated by various interested companies and individuals throughout Schuylkill County. The tedious job of counting and placing the small seeds in the packets was handled by the committee ably assisted by the Boy Scouts, Girl Scouts and 4-H Club members.

Years ago when the mountain lion, the elk and wolves, along with the red man, roamed the Schuylkill Valley the area was covered with dense stands of virgin white pine. As the Indian moved out the white man moved in and with him he brought the sawmill. By the time of the Civil War the mills were humming and the pine was in its heyday. This, followed by the developing mine industry hastened their removal. Uncontrolled forest fires completed the destruction and continued fires prevented the white pine from re-establishing itself. With the present efficient state forest fire protection system, all that is needed now is a source of seed.

Now, with this program there is an opportunity for the sportsmen of Schuylkill County to emulate the fabled Johnny Appleseed of the Ohio Valley and help re-establish the white pine in their own Schuylkill Valley. Naturally all of the seed won't come through but some are bound to "take" and, with forest fire protection, establish themselves and provide a seed source for the future. All nature needs is a helping hand and these packets should be one answer.



DROP SEEDS and press into ground with your foot is all you had to do to become a Johnny Appleseed in Schuylkill County this hunting season.

Let's Use Our Imagination, Too

By Frederick E. Bubb

THIS is the story of one conservationist who used his imagination. He took something which was useless, even called an eyesore by some, and turned it into a valuable conservation education tool.

Yes, this is the story of Robert Holman, conservationist, school teacher, and secretary of the Union County Soil Conservation District. Bob is conservation and biology teacher at the new, rambling, one-story Mifflinburg (Pa.) High School. Back in 1954 when the new high school was completed, a problem developed—what to do with an enclosed courtyard covered with clay subsoil. This is when Robert Holman got his idea which in a couple of years became a reality.

These photos show how Bob used his imagination. Let us all take note and prepare ourselves to make the most of the unlimited resources which we have around us. We, as conservationists, must use our imagination if we are going to get the story of conservation to the public.



This is an overall view of the completed wildlife conservation laboratory developed in an unused 80 by 150 foot enclosed courtyard at the Mifflinburg (Pa.) High School. Prior to the development of this wildlife laboratory, this was a barren eyesore. Conservation students of Robert Holman brought fertilizer, seed, and other materials from their homes and farms to be used in the laboratory. Conservation agencies provided ten species of trees and thirteen species of wildlife shrubs. The students saved their money and purchased various kinds of wildlife and fowl which live contentedly in the courtyard.



MR. HOLMAN uses this laboratory for practicum type teaching in his courses. Students can observe firsthand how nature provides for their wildlife friends. Their studies also show how the shrubs in the laboratory provide food and cover for wildlife. They also learn how these practices can be adapted for use on their own farms.



UNDER THE observation of Mr. Holman, a student explains the factors of identifying a red pine to his fellow students. This method of study as compared to "book learning" is more quickly accepted by the students. At left rear is a marsh containing swamp grasses and sedges. The marsh continues across the photo and at the right rear is a marsh planting of black willow and basket willow. The marsh was made by leaving a water tap open slightly and directing water flow into the marsh. The overflow from the marsh goes into a storm drain. This marsh provides food, cover, and water for the wildlife in the courtyard.



Mr. Holman explains the fine points of how wildlife shrubs provide food for wildlife. Logs for the rail fence in the foreground were brought by the students from their homes. The fence was constructed by the students during the development of the courtyard laboratory. Assistance was provided by the Pennsylvania Game Commission, the U. S. Soil Conservation Service, and the Union County Soil Conservation District, in the form of planting materials and technical assistance.

A Game Protector Looks Back . . .

WOODCOCK HELPS CROW SHOOTING

By Bob Latimer
Waterfowl Management Agent
Pennsylvania Game Commission

QUITE some time ago, during the days of the Model T Ford, there seemed to be more crows around and they certainly were more gullible. In this earlier era of crow shooting, on a bitter-cold winter day, I was hiding under a cut bank along what is now Rt. 14, between Muncy and Montoursville. Using a hard black rubber call of some kind, I was trying to call them within shooting distance as they were flying to some standing cornfields to feed. The snow was deep, the wind strong and what crows came over were bucking the wind and flying low. Enough came within range for me to be able to kill some 30 odd, before I ran out of "fodder." I was quite pleased with myself because prior to that, about 15 or 18 crows was the most I had ever been able to kill on any one shoot. Among others I knew who were trying crow shooting, I didn't know of anyone doing better. Back in those days, not too many of us were trying to shoot crows and it seemed to be an uphill job.

COLD JANUARY days spark the interest of crow hunters throughout Pennsylvania. This nimrod finds cover in an old tree trunk.



When the shells ran out about 3 p.m., my mind was made up to be back there next morning at daylight with enough shells to last, so I could really give the crows a working over. With that in mind, I went to a hardware store in Muncy and asked for what I thought was a substantial number of boxes of shells. As I was being waited on, a salesman standing there asked me what I was buying shells for at that time of year, which was probably January or February. I didn't know why he should be interested but I told him what I had in mind. He asked me if I liked crow shooting and if I hunted them much. I told him that I really did like it and that I had shot some 30 that afternoon. He introduced himself as a Mr. Woodcock, a representative of the Western Cartridge Company. He allowed that he had seen quite a lot of crows along the highway near Muncy that day and thought a person with a good call and who knew what he was doing, should have been able to

do a lot better than that. He stated that he liked to hunt crows too and that on a Sunday a week or so before, he and another man had shot over 200 from a blind along the lake shore, near his home at Ithaca, N. Y.

Even then, I had worked for the Game Commission long enough to have heard a lot of big stories—but thought this one had them all topped by far. Something about this man and his talk however was quite convincing; but not enough for me to believe. He asked me what kind of a call I had and I showed it to him. After blowing it a couple of times he said "No wonder you couldn't kill more crows than that! When I get back to Ithaca, I'll send you a decent call. Give it a try." He took my name and address. I thanked him and took my shells and left. To be perfectly honest about it, I never expected to hear from him again.

However, in about a week I received a package from him containing a Perdew call. It sounded good to me and I revised my thinking about this man quite a bit. But I still wasn't ready to believe that a couple of men could kill 200 crows with it in one day.

A few days later, as I was driving along a road near Danville, I noticed some crows along a stream some distance below the road. Since I hadn't tried the call yet, I thought I'd see what they thought of it. I didn't even bother to get out of the car, but merely rolled down the window and called. The reaction was really something. The crows started to fly right towards the car as if they meant business. This was before it was illegal to shoot from a car and I was able to get the barrel of the gun out the window and upset one of them that didn't veer quite quickly enough. This beat anything I had seen yet and at every opportunity the rest of that winter and during the next nesting season, I shot about all the shells I had money enough to buy. This I continued to do for quite a number of years!



CROW FLOCKS like this are common in the Keystone State during the cold months. These black targets sometimes number in the thousands in roosting areas.

I can't remember how long the call lasted that Mr. Woodcock sent me. But I started to order them direct by the dozen. Many of the men I worked with took to using them. Although I never did make any record kills with this call, I was able one year to kill a few over 1,000 crows from the 1st of January to the 1st of July. On different occasions 100 crows were killed in a day's shooting, but I refuse to be cornered into admitting how many shells it took on some days when there was some air moving!

Later on, more good calls showed up. I must admit that I guess I was prejudiced, but it always seemed to me that I could kill more crows with that make call than any other I ever tried. The more recently introduced mechanical caller using a record is better yet—but that's another story.

In later years I occasionally met Mr. Woodcock at white flyer matches and clay target shoots; he was then working for the Ithaca Gun Company. He was an excellent shot and in my book, a gentleman. I apologized to him long ago for not having believed him that day in the hardware store. I was lucky to have met him that day, and will always be grateful to him for showing me a way that enabled me to enjoy a world of good shooting.

Bear Family I



MAMA BEAR and her three cubs have balcony seats for the show below on the streets of Clearfield.



ANGRY BLACK BEAR moves toward crowd o in the Reedsville section of Clearfield after it with rope, got a lasso around the bear's neck the bush with another rope.



BEAR WATCHERS stand on the corner of Latimer and Linden Streets in Clearfield craning their necks to see the family of four black bears in the tree.

FOUR Halloweeners dressed in bear c late in October.

A group of children, also dressed for H the two groups met at the corner of Lat The bear costumes turned out to be real ments. When the dust cleared, the she b the children were running for safety.

Some 15 hours later, in front of 500 p quilizer dart and fell into the straw-filled

Still fighting hard to protect her cubs, and charge toward the crowd of curious police had been unable to do—break u

A few brave souls, however, managed on the truck.

Each of the cubs was tranquilized a family was headed back for the woods

District Game Protectors Guy Waldr lice were able to release the bears on S City of Clearfield.

It is doubtful that Halloweening will

es Clearfield



th 250 pounds of shaking fury on October 24
. A man identified as a Mr. Nelson, at left
trip. Andrew Nelson, of Clearfield, is behind

ed down a street in Clearfield one night

proached from another direction. When
en Streets, it was neither trick nor treat.
s considerable confusion for a few mo-
ree cubs were up the nearest tree and

)-pound female was shot with a tran-
aiting truck.
vived enough to jump out of the truck
ok only seconds to accomplish what

lasso her and put the female bruin back

e truck with their mother before the

m Miller in cooperation with local po-
nds No. 34 and restore order in the

me on the streets of Clearfield.



FRIGHTENED BRUIN in a tree in Clearfield stares down at newspaper photographer Jack Zipf as he aimed his camera. It was 15 hours later that the family of four was taken from the tree and returned to the woods.



SPECTATORS gathered by the hundreds under the "bear tree" in downtown Clearfield to see the family of four treed there for 15 hours.

FIELD NOTES



Game Detectives

JUNIATA COUNTY – So many times you hear a person seeing a Game Law violation and they did not know the person, could not describe the auto, no license number and absolutely nothing to go on but I recently received just the opposite. Two young sportsmen were waiting till the proper time to start hunting on the first day when looking down the road they saw a man shoot two cock birds with one shot, one-half hour early. The two quickly got out a camera they had with them and took a snap shot of the man in the road picking up the birds. One of the young men stuck his hand with the watch out so it also would be in the picture. They gave a complete description of the man and the type vehicle he was driving and the exact time and place the violation occurred. If every hunter was this observant maybe we could put a halt to this and several other unfair, common violations of the Game Law. – District Game Protector Robert P. Shaffer, Mifflintown.

The Shopper Wore Doeskin

LAWRENCE COUNTY – No, not a bull in a china shop, but an antlerless deer that visited the Shenango China plant in New Castle, Pa. The deer walked into the plant Saturday, October 28, at which time few workers were present. A search of the large plant revealed that the deer had taken off. No doubt the lack of other customers and the absence of any salesmen disheartened the lady shopper.– District Game Protector Calvin A. Hooper, New Castle.

Hunter's Cha Cha

WASHINGTON COUNTY–Hunting season usually brings on some unusual stories. One story this year concerns a lady hunter who carried a small transistor radio to provide music while she hunted. Perhaps the idea was to soothe the birds and rabbits and make them less cautious. The lady reported that she really wanted to enjoy the beautiful fall weather which is no doubt true. When asked about other hunters hearing music as she approached, she stated that she turned the volume down rather than cause anyone to think that she might be a candidate for the men in white coats. –District Game Protector William E. Cowden, Washington.

Big Turnout

DAUPHIN AND LEBANON COUNTIES – Approximately 400 people came to visit on State Game Lands No. 211 when it was opened for inspection the first day of this month. Many were from other states and all expressed satisfaction at the work which they saw done. – Land Management Assistant Ralph Shank, Leesport.

A Bucket Buck

BUTLER COUNTY — On the first day of archery season I received a call from a nearby farmer in Franklin Township that a dead buck deer had been found in his pasture with its head in a bucket. I went out to the farm to investigate and found a real nice eight-point buck. It seemed that the deer put its head in a five-gallon paint bucket and when he attempted to shake his head free, he gored himself in the spine. About three inches of the main point of the left antler was buried in the spine of the dead animal. —District Game Protector Jay Swigart, Butler.

Smart Hunter

LEBANON COUNTY—On October 29, 1961, John Demler, a Justice of the Peace in Union Township, called my headquarters and related this story to me.

That on the first day of small game season, two hunters were hunting towards his home, which is posted with P-123 Safety Zone signs. The hunter farthest away from the signs asked the other hunter why he was skirting the area, that it was only a trespassing sign. Then the other hunter remarked that it was a Game Commission Safety Zone sign, and that going beyond that point could mean losing their licenses. This was an example of the respect for Commission signs.—District Game Protector Perry Hilbert, Cleona.

Turkey Talk

TIOGA COUNTY—Turkeys are being seen in areas where they have never been seen before, which seems to be a conversation piece for the groups I have talked with in the last several weeks. Pictures were being taken of the flocks up until the guns started to bark. Both groups seem to have had good luck.—District Game Protector Duane J. Moore, Mansfield.

First Record

CUMBERLAND COUNTY—Elson Wisler, a farmer living along the edge of the North Mountains, Cumberland County, reports his dogs catching and killing a porcupine in his tractor shed. The dogs had to be taken to a veterinarian and put to sleep to have the quills removed from their mouths and face. This is the first porcupine ever reported in Cumberland County—District Game Protector George Bretz, Shippensburg.

Zero Hour

ERIE COUNTY—Deputy Ray Gocal, Union City, reported an unusual experience the opening morning of small game season. Five minutes before opening time of the season Ray came across two hunters standing beside the road, one with a shotgun, the other with a watch. A large male pheasant was also in evidence near the road and on a couple of occasions the old bird approached the hunters with blood in his eye ready to do battle. The man with the watch was giving his companion the count down on the starting time of the season. When the zero hour arrived the pheasant lost the battle and was put in their bag.—District Game Protector Elmer Simpson, Union City.



Public Relations

ADAMS COUNTY—Although most people think of a Game Protector as a law enforcement officer, there are many varied duties which a Game Protector handles in the course of his assignments. During the past month it has been a privilege for me to meet with over 500 school children, more than 300 Boy Scouts, 2 service clubs, one meeting of farmer-sportsmen and one of the Adams County Federation of Sportsmen's Clubs. In addition to these meetings, I have also had excellent cooperation by the local newspaper, "The Gettysburg Times," and radio station WGET. The importance of conservation education cannot be stressed too strongly and the cooperation given by school superintendents, school principals, teachers and many other interested persons has been of great value in carrying forward the work of conservation education.—District Game Protector Paul Glenny, Gettysburg.

Tractor Trailer

COLUMBIA COUNTY — A farmer in my district recently told me about a ruffed grouse that comes to his machine shed as soon as it hears his tractor start and will follow alongside of the tractor as he goes to the field. If he drives the tractor too fast for it to keep up, it will take short flights so as to be alongside of the tractor.—District Game Protector Lewis H. Estep, Berwick.

Bus Tour

ELK COUNTY — On October 1, I accompanied a school bus load of boys from the Fox Township Junior Conservation Club on a tour of Game Lands No. 25. The forty boys present all felt that they had learned a lot about the Game Lands and what use is intended for them. While on the trip they saw wild turkeys and deer.—District Game Protector Fred H. Servey, St. Marys.

Good First Day

NORTHEAST DIVISION — There must have been exceptionally fine nesting by our grouse and turkey. Hunters quite pleased with kill on first day. — Supervisor Roy W. Trexler, Dallas.

Eye Witness Report

WAYNE COUNTY—This story was told to me by William Yatsonsky, Deputy Game Protector, Wayne County. On August 24 about 4:00 o'clock in the morning he walked back into his pasture to get the cows and bring them to the barn. He had set some fox traps a day or two before and approaching within about 50 feet of one of these sets he shone the flashlight on the set and observed there was nothing in it. At the same time he saw eyes approaching and stood still watching. The eyes came closer and a red fox appeared and cautiously sneaked up on the set. He sniffed around it, took a step forward, looked toward the flashlight, took another careful step and, "wham" the trap went off and Br'er Reynard was caught. Billy says this was an old male fox and not a young pup and that upon being caught the fox executed a series of violent gymnastics accompanied by fearsome yowling and squalling until he dispatched it.—District Game Protector Thomas W. Meehan, Honesdale.





Can of Muskrat

SCHUYLKILL COUNTY—On October 5, Charles Stutzman, of Valley View, reported to me an unusual and interesting event. He is employed at the Hegins Mining Company, and was working the afternoon shift on October 4. He and some other employes were 1,000 feet in the slope of the mine when they heard a noise in a can near them. Checking, they found a muskrat in the can attempting to get out. They had seen signs of the animal for about six months but this was the first time they had seen it. They couldn't have been more surprised if the muskrat had been wearing a miner's lamp and hat. Perhaps he heard there was a cold winter coming and he was getting a supply of fuel.—District Game Protector Lowell Bittner, Tremont.

Good Advice

WARREN COUNTY — I recently finished reading an article "After the Shot — What?" by Bill Walsh that appears in the November issue of the GAME NEWS. It is my thought that it would be well if every deer hunter could read this article and then put into practice the advice offered by Mr. Walsh. Thanks to Bill for a fine article. — District Game Protector Dave Titus, Warren.

He or She?

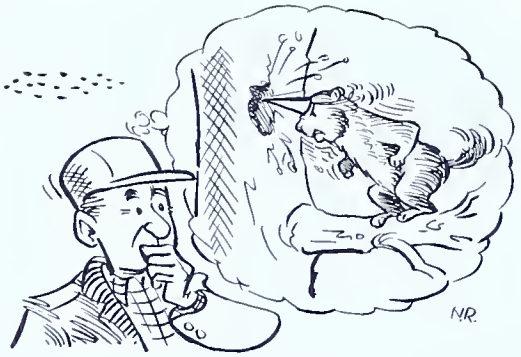
LEHIGH COUNTY — On the first day of the small game season, a Tamaqua hunter shot an odd bird in Lehigh County. The bird was definitely an English pheasant, whether or not it was a cockbird or a hen would be up to the experts to decide. The head of the pheasant and the neck were those of a cockbird, a bright white band was around the neck, but the rest of the body was that of a hen bird, with not a trace of spurs on the legs. The tail was identical to that of a hen pheasant. The hunter turned the bird over to me and further examination disclosed that it was a mature pheasant. — Land Manager Billy A. Drasher, Orwigsburg.

Rabbit Paradise

CENTRE COUNTY—While checking hunters on the first day of small game season, I was amazed with the reaction of the sportsmen concerning the rabbit development area on State Game Lands No. 176. Every man remarked about the ideal hunting conditions on the developed area. There were not many game bags filled, but every man appeared to be quite happy. Our Land Management officers certainly deserve a pat on the back for their great work. — District Game Protector Joseph L. Wiker, Pine Grove Mills.

Black Beauty

PERRY COUNTY—As I was checking my fox traps early one morning I came upon a sight that I think very few people see, and I feel very lucky in seeing one of the unusual sights of nature. As I came into an orchard surrounded by wooded land I saw two large bucks, a few does and one deer that was coal black. I could not see a bit of brown or any other color on the deer. I thought I was seeing things until two days before the small game season this deer was seen by a man and his wife.—District Game Protector Jacob Sitlinger, Newport.



What Did She Say?

FULTON COUNTY — Retired Supervisor M. E. Sherman stopped at a farm and asked the lady who answered the door if he could have permission to hunt woodchucks. She replied, "I wish you'd kill all of them! they have all the trees pecked full of holes."—District Game Protector Carl Jarrett, McConnellsburg.

Just One of Those Days

SNYDER COUNTY — On the opening day of the season, a hunter from Snyder County had made preparation for a turkey hunt in one of the northern counties. When he arrived at his destination he unloaded the car and was startled to find he was minus his gun, ammo and license. Not to be outdone, he returned home picked up his gun, ammo and license and day being partly spent, decided to hunt in home territory. While traveling to the area he chose to hunt he saw a turkey in a tree. Jumping out of the car, he grabbed his .12-gauge shotgun, and was chagrined to discover he had brought along .16-gauge shells. There's still more to the story. Said hunter returned home again to find his registered Chihuahua, the children's pet, had fallen down the cellar steps and broken his neck.—District Game Protector Ivan Dodd, Middleburg.

Plant Food for Wildlife

Monster Mushroom

CRAWFORD COUNTY — Howard Woodard, of Linesville, picked a puffball mushroom that measured 43½ inches in circumference and 38 inches over the top. This was the largest of the three found growing on his farm near Linesville, Pa. It was the largest one I had ever seen.—District Game Protector Paul Miller, Linesville.

Deer Roper

LUZERNE COUNTY—On Sunday night, October 29, the State Police called my home to tell me of a deer that was hit by a car in Butler Township on Route 309. I was not home so my wife called Deputy Bredbenner and asked him to pick it up. He called back later to tell me he hadn't found the deer. This is the story of the deer which was verified by another witness. The deer was hit by one car but only stunned and was standing between the north and south lanes on the 4-lane highway. A passing motorist stopped, walked over to the deer and it didn't move. He returned to his car, got a rope, put it around the deer's neck, pulled it off the road and tied it to the guard rail. Soon afterward, the deer recovered, tore the rope from the guard rail and took off for its natural environment with the rope still around its neck. — District Game Protector Robert W. Nolf, West Hazleton.



CONSERVATION NEWS

Pennsylvania Starts Radio-TV Spots

A new series of radio-TV public service announcements was started this fall by the Pennsylvania Game Commission. One-minute TV film clips are being sent to each of the 21 TV stations at regular intervals. The first two emphasized hunter-landowner relationships and the state bird, tree, flower and animal (using shots of the color wall chart recently published by the Commission). Others in the series will cover safety, how to field dress big game, curbing wild dogs chasing deer and other game, helping field officers in law enforcement, and tagging big game kills. The films are shot and edited by staff photographer Delbert Batcheler, with copy assist from wildlife education specialist Will Johns. They are produced through facilities at WQED-TV, the educational television studio in Pittsburgh, at a cost of about $7.50 per print.

Also in the mails is a series of radio public service announcements prepared by George Harrison, GAME NEWS editor, and Will Johns. These are timed spots ranging from 10 secons to a minute, multilithed on 3-ring binder paper, with several copies of each release included in the package mailed the radio station program directors. First in the series covered such subjects as hunter safety, landowner relationships, and opening times on the small game seasons. The last item was put out because of considerable confusion among the public. The small game season legally opens on standard time—but most of the state is still on daylight saving time the day of the opener.



ILLEGAL KILL held by Dauphin County Game Protector William C. Shaffer. This turkey gobbler was shot by a bow hunter during the archery season in East Hanover Township.

Bell Addresses Conservation Law Enforcement Group

Tom Bell, Game Commission Law Enforcement Chief, presented a paper titled "Concepts of Conservation Law Enforcement" before the Law Enforcement Section of the Southeastern Association of Game and Fish Commissioners, which held its annual meeting at Atlanta, Ga., on October 23. Mr. Bell's appearance was on invitation from William Davis, Secretary of the Law Enforcement Section. Davis is the chief law enforcement officer of the Fish and Wildlife Service and operates out of the Atlanta office of the Service.

County Full of Conservation Involved 400 for a Day

Pennsylvania scored what might be a conservation first on October 17, 1961. Every public school teacher plus 25 student teachers working in the county at the time were required to attend a one-day Conservation Field Day. Total attendance was over 400. The big workshop was organized by Orrin Wagner, assistant county superintendent of schools for Mifflin County in the south central part of the state.

State conservation agencies cooperated to the fullest extent, providing field trip leaders and packets of free teaching literature and aids to every teacher. Cooperating agencies included the Pennsylvania Geologic Survey, Fish Commission, Game Commission, State Soil Conservation Commission, Department of Forests and Waters, and U. S. Soil Conservation Service.

The program started with an hour's slide lecture and talk by a rural resource panel from Penn State University. The teachers were then divided into groups of about 90, traveling in 3 school buses each. Four caravans operated on a tight schedule, making stops at four different locations in the field to observe natural resource use and management firsthand. One stop was on a farm in the soil conservation district (where every teacher got a bright, shiny apple, of course), another at a limestone quarry for a lesson on geology, another in a managed forest, and the final stop at a sportsmen's club grounds for lessons on fish and game management. The entire group assembled back at the high school auditorium at 3 p.m. for a half hour slide talk winding up the overall picture of conservation for the day.



SCHOOL TEACHERS of Mifflin County view a stone quarry on the field trip phase of their day-long conservation workshop involving over 400 from the county. The big workshop was organized by Orrin Wagner, assistant county superintendent.

Commission and State University Cooperate in Research Study on Hunter Safety Teaching Methods

In a meeting on November 16 in Harrisburg, the Pennsylvania Rural Safety Council voted to use a financial grant from the Game Commission for a research study by Dr. Frank Anthony, of Pennsylvania State University, on teaching methods for firearms and hunter safety. The study will be made in 10 schools selected at random in five counties of the state. Counties involved will be Adams, Centre, Crawford, Cumberland and Erie. Schools in Lehigh and Tioga Counties may later be involved in the study. Instruction methods based upon the "Ten Commandments of Safety" will be used before 7th and 8th grade students. The methods will be: (1) color slide presentation with script read by teacher, (2) lecture-demonstration by Game Commission representative, (3) slide talk and lecture-demonstration by game official, and (4) lecture by teacher using a prepared text. The students in each school will be pre-tested and post-tested with a 50-question test. The study is designed to show which teaching method is most satisfactory and will be followed by a "Safety Through Art" project conducted by art teachers. Using results of the written tests plus the knowledge of the subject as depicted in posters, Dr. Anthony may be able to solve the problem of which teaching method is most effective.



GREAT-GRANDSON of one of Pennsylvania's first Game Protectors, Joe Berrier, 13-year-old Tommy Berrier displays a cock ringneck he bagged in the first few minutes of the small game season. Standing with Tommy is his father, Edward Berrier.

Scouts to Feed Wildlife

Boy Scout Troop No. 307, of Linglestown, has the jump on bad weather this year. They have gathered more than 80 bushels of corn to be fed to wildlife this winter.

With the cooperation of several farmers in their area, the Scouts were allowed to go through the cornfields after the mechanical pickers were there and pick up the leftovers.

Although the troop is only two years old, they lease a 40-acre tract for use as a summer camp and a winter feeding ground for wildlife. They also purchased a 55-passenger bus which they have completely paid for.

STRING USED TO LOCATE KILL

On October 26, Charles A. Hayes, of Dallas, loosed an arrow into a six-point buck in Luzerne County. Hayes probably would have lost the deer had he not attached a fishing line to the arrow.

It was late in the afternoon when he hit the buck. The deer took off with the string reeling off behind him. By following the string, Hayes found his dead buck more than 100 yards from the spot he had hit it.

TIP FOR HUNTERS



If every package of game to be frozen is carefully labeled, dated and wrapped with special colored paper or tape it can easily be found when searching through a filled freezer. If a roster is kept of every package frozen, when it is removed it can easily be cancelled and it will be known when the supply is gone. Such procedure should prevent embarrassment of keeping frozen game beyond legal limits.

—Rev. George L. Harting

Bow and Arrow Deer Season Ends

The archers' deer season which ended October 27 will compare favorably with that of last year, early observations indicate. Successful bow and arrow hunters already have reported nearly 1,400 deer kills to the Harrisburg office of the Game Commission. During and following the 1960 archers' deer season 1,174 deer were reported harvested in Pennsylvania.

This year the Game Commission's northern county divisions again accounted for the highest number of deer taken by archers. Partially from knowledge and partially from estimate, these are the 1961 harvest figures submitted: north central, 700; northeast, 300; northwest, 230.

Bow and arrow hunters enjoyed about as many hours afield and bagged about as many deer in their season this year as in the 1960 hunt despite warm weather, heavy foliage and noisy underfoot conditions during most of the season just concluded, in the opinion of qualified observers.

Successful but forgetful deer-hunting archers should mail the report of their kill to the Game Commission, Harrisburg, at once. The law requires this be done not later than five days following the close of the season in which the big game animal was taken.

Book Note...

Crusade for Wildlife: Highlights in Conservation Progress

By James B. Trefethen

The history of the American conservation movement has been sketched in broad strokes by many writers, but this new and important book is the first serious attempt to fill in the shading. Any national movement is shaped by the personalities and experiences of its leaders, and conservation has been no exception. Yet of all of the many men of the past who contributed to its momentum only a few, notably Theodore Roosevelt and Gifford Pinchot emerge as clearcut personalities in the public mind. In the pages of this book, many other individuals who are today little more than names come to vibrant life.

382 pages. Illustrated with two color plates of paintings by Carl Rungius, 67 line drawings by Bob Hines, and 7 halftones. Published by the Boone and Crockett Club and The Stackpole Company, Telegraph Press Building, Harrisburg, Pa.; 1961. Price $7.50.



256 YEARS OF SERVICE to the Pennsylvania Game Commission are totaled by these seven Harrisburg Office employes who have given 30 or more years of service. Left to right are Isaac C. Baumgardner, 37; Wilbur C. Cramer, 47; Hayes T. Englert, 39; Esther M. Gill, 33; A. Clinton Ganster, 30; Charles C. F. Stambaugh, 38; and Delbert L. Batcheler, 32.

The Ike's Hunter Plea Read by Millions

The thinking processes of millions of persons in the United States were being stimulated, this autumn, each time they read a HUNT LIKE A GENTLEMAN sign displayed on an auto bumper or elsewhere. The notices were produced and distributed by the Izaak Walton League of America to remind outdoors people of the importance of practicing good manners in the out-of-doors.

Of course, this striking phrase does not disturb sportsmen — individuals who courteously conduct themselves while guests on lands owned by others. It does remind all hunters, however, of the need to safeguard privileges granted them by generous-minded farmers and other landowners. Also, it calls attention to the fact that caution and consideration afield—as part of proper behavior — naturally result in safety to humans, livestock, poultry and to farm and timber crops.

Being a collaborator in this important new approach to an old problem, the Game Commission distributed approximately 4,000 of the HUNT LIKE A GENTLEMAN auto stickers to Pennsylvanians interested in being courteous, law-abiding hunters and, as the Ike's slogan says, "Defenders of Soil, Woods, Waters and Wildlife."

Discovering Pennsylvania Booklets Printed

The office of Pennsylvania Publications at Cresco has just released three new popular priced, 40-page books about Pennsylvania. Published under the general title of DISCOVERING PENNSYLVANIA, there is a book for Eastern Pennsylvania, Central Pennsylvania and Western Pennsylvania. On the colorful cover of each book is a list of the counties about which material is used. The books have been written by A. H. Carstens, author of Pennsylvania's Best, who says, "Many of the stories and pictures in these books have not been used by us before."

The Eastern book features, for example, a story about the popular Strasburg Rail Road, near Lancaster.

The Central book features the "little old red schoolhouse" outside of York. Another story concerns Allenberry on the Yellow Breeches — the creek so named by the British troops whose white breeches became yellow after being washed in the rain-churned water.

The Western book contains a feature story of the Harmony Society at Old Economy at Ambridge.

These books can be obtained from the author, A. H. Carstens, Cresco, Pa., for $.50 each.



FIRST IN 50 years of trapping was this 18-pound bobcat trapped by 69-year-old Irv Haskins, of Coudersport. He has caught more than 1,500 red and gray foxes and 3,354 skunks in his life, but this was his first bobcat.

Whoopers Hold Their Numbers at 36

An aerial reconnaissance of the Aransas National Wildlife Refuge and nearby Matagorda Island shows that 36 whooping cranes were safely on their coastal Texas wintering grounds on November 8, the Wildlife Management Institute reports. The tally disclosed 28 adult birds and 5 young on the Aransas refuge and 3 adults on Matagorda Island.

Concern is mounting for the 5 other adult birds that left the refuge this spring for the north. The known world population of whooping cranes, in early November, was exactly the same as last spring.

TWO NEW REPRINTS AVAILABLE

The Pennsylvania Game Commission announced that two new leaflets are now available to the public.

The Game Commission financial report for the fiscal year ending May 1, 1961, and a publication called "Do You Want to Become a Game Protector?" are both available from the Commission headquarters in Harrisburg or any field division office.

The financial report, prepared by comptroller Paul J. Sauer, is presented in simple terms to show how the Game Fund dollars were obtained and spent.

The Game Protector leaflet, prepared by Administration Chief Robert S. Lichtenberger, answers questions about the law enforcement personnel of the Game Commission.

RATTLESNAKE is shown to sixth grade school children of Tyrone by Game Protector Bert Welch, of Huntingdon County. These children were part of a group that visited State Game Lands and viewed wildlife exhibits in October.



National Survey Confirms Bald Eagle Plight

There are probably fewer than 5,000 bald eagles left alive in the United States exclusive of Alaska, the National Audubon Society reported.

The Society is now engaged in the first attempt ever made to determine how many eagles there are and what can be done to halt a long decline in their numbers. This is the bird that serves as our national emblem and whose image appears on the Great Seal of the United States, on coins, and in other official places.

An inventory of eagles in Alaska, where a "healthy population" is believed to exist, has not yet been undertaken, according to Alexander Sprunt, IV, the Society's research director. The bald eagle does not occur in Hawaii but shows up, at least occasionally, in all the other states.

In the first winter inventory, conducted last January with the help of federal and state wildlife agencies and hundreds of local cooperators, a total of 3,642 eagles was recorded in the 49 contiguous states. These were mostly concentrated in three areas, Biologist Sprunt reported at the Audubon Society's 57th annual convention, which opened on October 28 in Atlantic City.

Ten states in the Middle West had 1,790 wintering eagles, or 49 per cent of the total. These states were Minnesota, Wisconsin, Iowa, Illinois, Missouri, South Dakota, Nebraska, Kansas, Oklahoma and Tennessee.

Four states in the Pacific Northwest—Washington, Oregon, Idaho and Montana—had 742, or 20 per cent.

The third regional concentration was in Florida, this one state leading all the others with 392, or 10 per cent of the 48-state total.

All the other states together had 766, or 21 per cent.

The National Audubon Society's continental bald eagle survey and research project, started last autumn, is scheduled to run for five years. At the end of the study the Society expects to have the scientific basis for a conservation program that will keep the great, white-headed birds permanently among America's living wildlife.



AMERICA'S RARE SYMBOL, the bald eagle, is becoming very scare in the United States. The National Audubon Society is now conducting a study to determine their numbers and they hope to recommend a method for managing the National Bird.

New Game Land In Franklin County

Many outdoorsmen are enjoying open hunting this year on a newly purchased property in Franklin County. The Game Commission recently bought 456.6 acres on Hogback Mountain, a part of Tuscarora Mountain, for $5,935.80. Designated as State Game Lands No. 235, the holding is located along State Route No. 75 and is one and one-half miles north of Fort Loudon. This land lies adjacent to Buchanan State Forest and adjoins it on the west and south. All of it is woodland. The trees are of various sizes and ages and largely are a mixture of yellow pine and hardwood.

The newly acquired property is described as "good hunting land." Principally, the kinds of game on it are deer, turkeys, grouse and squirrels.

This purchase brought the total for State Game Lands in Pennsylvania to 960,653 acres.



GAME COMMISSION WAS HOST to a Conservation and Outdoor Education Workshop for 17 representatives of County and School District Superintendent's offices in northwestern Pennsylvania. The workshop held October 30 to November 2 was arranged by Mrs. Eleanor H. Bennett of the Department of Public Instruction.

OLD HUNTING LICENSES SOUGHT

In case you hunted in Pennsylvania in 1913, 1914, 1915, 1919 or 1920 and just happen to still have your license for any of those years, Byron R. Kinzer, of Williamsport, would like to know about you.

Mr. Kinzer, the game propagator at the Game Commission's Wild Turkey Farm, is collecting old licenses and he has them all except those listed. He is willing to trade 1924, 1925, 1926, 1929, 1931, 1932 and 1934 if anyone is interested.

Get out the old chest, dust off the old hunting coats, and see if you have one of the five years needed. If so write to Byron R. Kinzer, Proctor Star Route, Williamsport, Pa.

ONE IN A MILLION are the chances of shooting an albino deer with a bow and arrow, but 17-year-old Gary Packard, of Canton, did it with one shot from 50 feet. The arrow pierced the button buck's heart as the deer ran near the county bridge on the Tioga River.



PHOTO CREDITS

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P. 56, 57—Bourquin Archery Prod.
P. 59, 60, 61, 62—Jim Varner

Portraits of the Season

"JANUARY"

RATTLING old cattail bones, the frost-wind whips the pond, rippling the new ice skin along the shore, droning a winter's note as it sweeps from the north. But the beaver sleeps in his high lodge. Waking occasionally, he dives, silver bubbles trailing, to the aspen stored in the winter mud and returns with a branch to strip. Now and again he yawns tremendous orange incisors, stretches, scratches his ear with a curiously cleft hind toe, and wallows in the sweet luxury of idleness. As idle as a beaver—how strange that sounds! The cold grips closer and the pond ice no longer heaves to the wind. All is winter-tight, save a chickadee's note splintering the season away. Sweet beaver dreams and wisps of breath-fog curl from many winter lodges in a land of lead skies and weighted woods.—*John Guilday.*

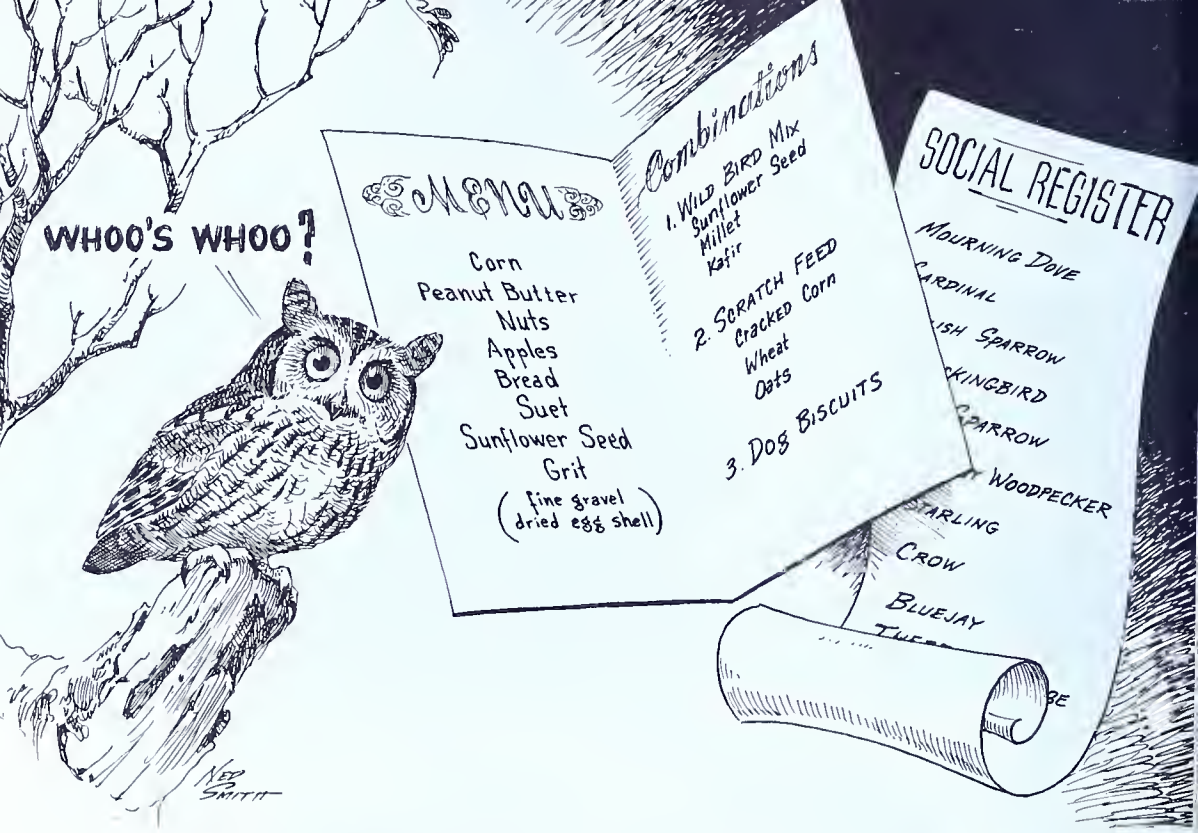




ARCHER'S DEER STOLEN

On the 18th of October Dr. Ed Bowser, of York, Pa., arrived at the home of Game Protector Charles Keiper, in Renovo, with a large doe deer he had killed with an arrow. The animal's hind quarters were badly mangled. This is the story the archer told:

Dr. Bowser killed the deer in Clinton County on October 17. He tagged and dressed it, then left to bring a friend to help take the animal out. When the two men returned to the scene the deer was missing. Following drag marks they found a large bear feeding on the carcass. The men frightened the bear away, then retrieved the trophy.



Whoo's Whoo on Boas Street

By Marian N. Baker

Editor's Note: Because of the population shift from farm to city during the last 30 years, conservationists are stymied with the job of bringing wilderness problems to the city folks and vice versa. One way this is being done is to call attention to wildlife that already exists in all cities. Trees, flowers, insects, birds, reptiles and amphibians are all citizens of city life. The "Boas Street Woods" is in downtown Harrisburg, but could be in any city or town of Pennsylvania. The author, Marian N. Baker, lives on Boas Street and for the next 12 months she will take us on a field trip down Boas Street to see wildlife that we never dreamed existed in the city.

IF YOU want to become acquainted with the birds of the Boas Street Woods, and find out whoo's whoo, begin by inviting them to dinner. This will mean a trip to the store for wild bird seed or to the mill for scratch feed and corn and to the butcher for suet plus a search through your own larder for such tasty tidbits as peanut butter, nuts, apples, bread, raisins, meat bones and other table scraps. When the ground is covered with snow, seed eating birds also need small bits of gravel to grind the food in their peculiar digestive organ, the gizzard, since they have no teeth. Egg shells dried and crushed and coarse sand produce the same results. The egg shells provide the additional calcium which is necessary in birds' diets.



Next you must provide a suitable table. The range here is wide, all the way from a simple shelf on the window sill to elaborately roofed and glass enclosed creations. The latter are better of course and take less attention, but remember the main thing is to feed the birds regularly with a variety of foods to suit their different tastes and be governed accordingly. For the safety of the birds have the feeder in a protected spot away from overhanging trees and bushes where there will be no danger of being ambushed by stray cats. Next, if it doesn't inconvenience your feathered guests, locate the feeder some place where you can see it easily and be comfortable while you observe. You will learn a lot about birds and their habits.

The social register in the Boas Street Woods includes the following birds this winter: English sparrow, starling, cardinal, mourning dove, tufted titmouse, crow, mockingbird, downy woodpecker, blue jay, junco, black-capped chickadee, and white-breasted nuthatch.

You may think that the first two on this list are too common to mention, but, when you come to think of it, could you describe an English sparrow so that someone who has never seen one before would be able to recognize it? Can you distinguish between the male and the female?

Suppose we start with the English sparrow because it is the one that will start with you, special invitation or not. The male is a small gray-brown bird with a black bib under its chin, a gray crown, white cheeks, chestnut nape, white wing bar, back mottled with black and chestnut and a gray breast. All these characteristics give the idea of color, but in reality the

Begin your back-yard project by inviting the birds to dinner at your own feeding station.



sparrows of the Boas Street Woods are drab little creatures made so to some extent by the grime of the city. The female is more nondescript than the male being a smaller gray bird with a very indistinct eye line. She can be recognized most easily by the company she keeps. The bird guides say that the English sparrow is five and one-half to six inches long from the tip of its beak to the tip of its tail. This seems like a very prosy bit of information, but in reality it is not. In the sparrow, which we know so well and can see most any time, we have a yardstick with which to measure other birds. Now we can say with reasonable accuracy, "I saw a bird that was a little larger than an English sparrow" or a little smaller as the case may be and right away we get a picture of the size of the new bird.

Birds Are Welcome

The birds in the Boas Street Woods do not lack for invitations. When I look out our side window I see a feeding station on a metal pole in our neighbor's yard. It is a rectangular tray enclosed on the two ends and protected by a gable roof with overhanging eaves. Here the sparrows come in droves. They descend in a flurry on a cold winter morning, pick up a few seeds from the ground beneath the feeding box and then with a swish of wings and apparently in great fright they disperse in haste to the neighboring shrubs from which they came. In another minute they are all back again only to repeat the performance a moment later. This strategy always reminds me of "Wolf! Wolf!" . . . especially when, as it happened this morning, there was a junco feeding with them. After all the excitement of leave-taking was over each time, there was the little junco placidly feeding alone undisturbed by the jittery sparrows.

The junco is a little smaller than the English sparrow. Its markings are just as distinct as those of the sparrow are vague. It is a slate-gray with the exception of its lower breast and under part which are white. The outer tail feathers are white and flash when the bird flits about in changing its position or takes flight. It has a sturdy light colored beak and like the sparrows is a seed eater, enjoying the small seeds in the wild bird mix.

The Snow Bird

When I fill the open shelf feeder in our front window I always scatter a handful of seeds on the snowy roof of the porch below in case some timid guests might hesitate to come closer. This attracts the junco and it lands with a soft little plop in the snow. As it sits there none of the white marking underneath is visible. It makes its way about with very low hops that do not clear the snow completely. As a result there are troughlike paths left in its wake as it feeds in the soft snow. Other places there is just the rounded imprint of its body with a faint brush of wing tips where it has taken flight. Needless to say this "belly flopper" technique does not add to the whiteness of his front. When searching for its favorite seed in the feeding tray the junco makes quick little scratching motions using both feet at once.

He Needs No Invitation

Now I am thinking of another guest who thrives on table scraps, suet, seeds, in fact anything you happen to have handy. You will be thinking about it too after you have issued the invitation. It is a black bird with a short stumpy tail. Its feathers are sometimes edged with brown or white which gives individuals a speckled look in winter. It is larger than a sparrow and more chunky. Now in January its strong pointed beak is changing from dark to light, In fact some have changed completely and others are in the half and half stage. You have guessed it, the English starling.

They descend in droves to our back porch feeding area—shrieking droves—

and falling upon the meat bone brace their feet and tug at the resisting fibers, or using their beaks as probes they search out the inmost crevices. They force the connecting tissues of the suet apart by opening their beaks wide like tongs. And then there is always the battle for prestige.

The Noisemaker

The blue jay is the most vividly marked bird you will see in the Boas Street Woods. You will hear it more often than you will see it. Sometimes three or four of them get together and they are a noisy bunch with their "Jay, Jay" calls. The blue jay is much larger than a starling; larger than a robin. It is bright blue with a white breast and a crest (topknot of feathers) on its head.

One came to the ground under our neighbor's feeding station this morning early. Landing with its feet spread wide apart it hopped about with energetic leaps as if it were on a pogo stick—evidently master of the situation and ready for any emergency. The fare of small seeds did not seem to suit it. It was more interested in some choice items like peanuts or bread. This is the first bird we have met that sports a crest. Take a good look at its head so you will know what a crest looks like. Notice how the feathers of the crest can be raised and lowered, sometimes they are almost flat to the head, again they are raised to their full height.

Speaking of crests, here is another bird that has one. It alights cautiously in the Norway maple at our front window where it sits with its crest erect giving its sharp alarm note. This is always a pleasant warning that someone special is coming. Then it flies to the window sill feeder. Here it is, a red bird (even its heavy beak is red) with a black face and a saucy red topknot. Of course you know the male cardinal. Its mate is beautiful, too, in a refined sort of way. She, too, has a red crest and red beak, but the rest of her subdued costume is yellowish brown with suggestions of red in the wing and tail feathers.

Now the male on the window ledge feeder, with his crest laid flat to his head selects a sunflower seed, dexterously cracks the hull and discards it eating the meaty kernel. The technique, at least of this fellow seems to be to have the seed lengthwise in his beak with the large end at the back. It certainly fits the contours of his beak better when held this way. Sunflower seeds and field corn are his meat and drink, although if these aren't available he will eat the smaller seeds in the wild bird mix. But you can tell he is just being polite!

His call is a clear ringing whistle. Even now in January when we have a few warm days, cardinals begin to call. One in our block seems to be saying "Richard, Richard, Richard" and again the notes sound like, "Good Cheer, Good Cheer, Good Cheer." Each set of phrases varies in pitch adding charm to the concert.

Then There's Tufty

There is another song in the Boas Street Woods that sounds something like the cardinal's. It is a clear ringing whistle, too, but the phrases are all on one pitch no matter how many times they are repeated and have a

That little gray ground-scratching bird is a junco, sometimes called a snow bird.





Old red the cardinal.



Cotton ball, better known as chickadee.



Mr. Starling the Britisher.



A woodpecker called downy.

more plaintive tone. "Peter, Peter, Peter" or "Here, Here, Here," calls the tufted titmouse; the little streamlined gray bird about the size of a sparrow with a gray crest and a patch of chestnut on its flanks.

It, like the cardinal, enjoys sunflower seeds, but it prefers its meals "to go." While the cardinal is still methodically devouring his order of sunflower seeds the tufted titmouse dashes in, snatches a sunflower seed and leaves. High in the Norway maple across the street he clamps it securely to a branch with his feet and extracts the kernel with his chisel-like beak. Sometimes he makes several trips at such speed that it is difficult to follow his actions.

Red Feet

The large fawn colored bird with bluish casts sitting on the roof of the feeder is a mourning dove. It is a little smaller than the domestic pigeon and has a long pointed tail. Its head is small compared to the rest of its body. It has red feet and walks about toeing in as all pigeons do.

Now it is dozing, its white eyelid moves up over its eye, not down like yours does. Then it stirs and stretches its tail wide so that you can see the white edging on the long tapering sides and the black V. It raises its wings high above its head and displays their light underside. Then it begins to walk around on the roof and peer over the edge. It shifts its weight nervously and you think any minute it will get over the eaves some way and into the feeding box. Every time the sparrows fly in it walks about and hesitates on the brink. Finally it flies off the roof a few feet and back into the feeder. Here it sits almost covering the feeding area with its bulk, and eats. The sparrows work on the edges, if they get too close it will give them a vigorous jab with its beak. They don't seem to mind, just move out of reach. At last it is satisfied and flies away. It is then that you hear the whistling sound made by its wings and see the white edging of the pointed tail as it fans out in flight. The mourning dove likes the shelter of the evergreen trees. It is too early now in January for them to indulge in their mournful cooing notes.

A Southern Gentleman

There is another bird in the Boas Street Woods that flashes patches of white in its tail when it flies, but you would never mistake it for either the junco or the mourning dove. This tail flasher is the mockingbird. It is a streamlined gray bird about the size of a robin with a white breast and white wing and tail patches that flash in flight. I see it about on the coldest days, always by itself. When it comes to the back porch the English sparrows and starlings keep a respectful distance. If they forget it darts after them with neck extended in a most menacing manner and they soon give ground. Its favorite foods are raisins, bread and apples. In the past years mockingbirds have been extending their range farther and farther northward.

The crows were flying over this morning as I walked with Mr. B to work. There they were, ten dark shapes against the winter sky, flying into the west and calling as they went. I said, "I like to hear the 'Caw, Caw, Caw' of a good honest crow." Mr. B said, "Did you ever hear of an honest crow?" Honest or not I like them. There is no mistaking them. They are large black birds—all black—feathers, beak and feet. Certainly no difficult markings to debate over here. They make a good top notch for our yardstick. Crow-sized birds are large, seventeen to twenty-one inches say the bird guides.

As I stopped at the mailbox, I heard a scratching sound in the Norway maple that overhangs the pavement. There was a small black and white woodpecker with a patch of red on the back of his head hitching his way up the ridged trunk and supporting himself with his stiff tail when he

paused to search in some crevice for hibernating insects. A small boy came along and we watched it together. He said, "I believe you call that the downy woodpecker." And how right he was. The downy woodpecker is a small bird about the size of a sparrow. The general color is mottled black and white with a white back and breast. This one was a male as indicated by the red patch on the back of his head. The female has no red markings.

The chickadees, those little bundles of energy that seem to laugh at the winter gales, are my favorites. They are small gray birds, much smaller than a sparrow—with black caps, black bibs and white cheeks. When they land in the feeder on the window sill they utter a few "dee-dee-dees" as grace notes and then begin to eat the suet, peanut butter, crushed nuts and sunflower seed. The latter they hold down with their feet while removing the hull.

Suggested Activities

From time to time you will meet with other birds in the Boas Street Woods. In order to organize your information about them suppose you compile a booklet of "Whoo's Whoo." One page might look like this,

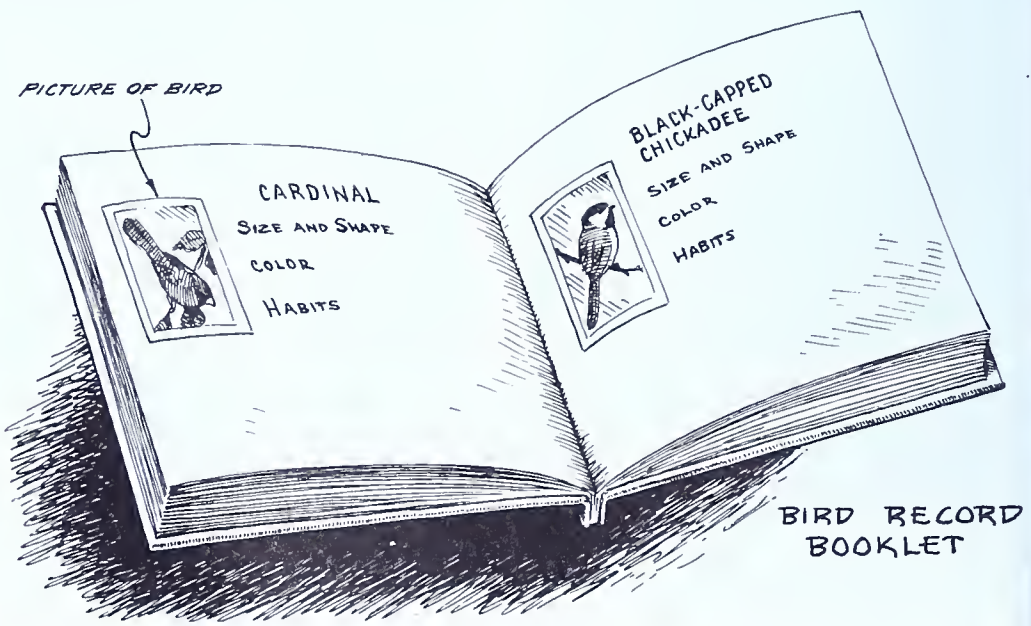
Either draw your own illustrations or cut pictures of birds from magazines. Two different sets of bird cards, fifteen in each set, can be obtained from the Advertising Dept. of the Church and Dwight Co., Inc., 70 Pine Street, New York 5, N. Y., at ten cents per set. It is easier to start with the winter birds because there are fewer of them. Then as spring arrives the newcomers will appear on the scene a few at a time.

Take a handful of wild bird seed mix and find out how many different kinds of seeds it contains. Put small containers of each variety in your feeder and watch the birds select their favorites.

Count the number of bird nests that can be seen in the Boas Street trees. Keep a record of the trees and see if the birds return to the same location this summer.

Look for birds at the feeder that act differently from their fellows, that stand out from the crowd because of some peculiarity of their own. See how crippled birds compensate for their injuries.

Find out what trees and shrubs on Boas Street have fruits that are eaten by birds in winter.





The average archer isn't interested in plowing through the snow to enjoy his sport, therefore indoor shoots are popular. Here two Harrisburg archers check their scores on an indoor range.

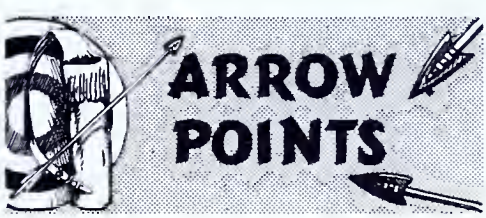
When Snow Covers the Ground It's Time for . . .

INDOOR SHOOTS

By Tom Forbes

THE 1949 Official Handbook of Field Archery states that the first field course was established about 1935 by a group of archers in Southern California. Quoting from the old Handbook: "Roving is a game pure and simple. Not once have we mentioned its connection with the hunting archer. This was intentional because a man plays a game for the pleasure of playing it or he doesn't play it at all. The added skill that the hunting archer derives from roving is very much worth while but it is a sort of by-product. He played the game for fun."

Such was the original intent of the archers who developed the game of Field Archery and to a considerable extent it is true today that many bow hunters who regularly bag their deer during the bow and arrow deer season are not members of any archery club and never shoot a field course. Vice versa, numbers of Field Archers do not take a bow into the hunting field. In those days target archery was condemned because the emphasis was placed on scores and precision shooting. Today the wheel has turned full cycle and the field archer, if he is not primarily interested in collecting awards at open tournaments, feels that the fun has gone out of field archery. Clubs are finding it increasingly difficult to hold their members and to recruit newcomers to the sport. Archery is a sport in which all members of a family would enjoy participation if fun and recreation were the guiding principles on which the club operated. However, the original intent of the game has been played down and the emphasis today is on the col-



lection of trophies by a few high-scoring club members to the detriment of the sport and consequently a rapid turnover in club members who find that the club program makes no provisions for their entertainment and pleasure. To cite one example, the Annual Sullivan County Bow Hunters Festival drew over 1,000 archers this fall for a full weekend of archery and there was not a single tournament in the whole schedule of events. Far from being ignored or endured small fry had shooting areas set up for their exclusive use. Family groups were the rule and not the exception and everyone, yes everyone had a good time.

Winter Is for the Hardy

Only a few hardy specimens will tackle the field course at this time of the year. The bow and arrow season for deer has passed and we remember with pleasure the fall days we spent in the October woods. Few, a very few, of us bagged a deer but we had real pleasure in the days we spent outdoors with the bow. Our hunting companions were valued friends for whom we wished every success and not competitors for a piece of hardware who must be outshot if we had to bend their arrows to do it. Winter would be a slack time for archers if provisions had not been made to shoot indoors. Today the field club fortunate enough to have a club house, whether it be a converted barn or of recent construction provides a place to set up an indoor range. Here the members and their families can gather on a winter night, enjoy each other's companionship, talk archery to their heart's content and keep in practice. Each of us knows that we must shoot to maintain our maximum capability with the bow. Due to space limitations many clubs are unable to shoot the standard rounds recommended by the National Associations. Many times 15 yards is the maximum distance available in the club house. For this reason it is common practice for each club to make up a round and choose faces that will permit club members to compete with each other using the classifications earned on the field courses or using a handicap system so that every member is a potential winner. If space permits two indoor rounds are recognized by the NFAA; the Flint Bowman Indoor Round which is shot on a thirty-yard range and the Twenty-Yard Indoor Round. The NAA official Indoor Round is the Chicago Round which features 96 arrows shot at 16″ target faces from 20 yards. There is more variation in the NFAA rounds which have different sized target faces at varying distances. Actually there are seven shooting positions in the NFAA rounds. The shortest distance is twenty feet in either round.

COMMERCIAL INDOOR RANGES have become popular in the past few years. Here at the BOW-L-ARROW Lanes in Ephraim, N. J., archers loose arrows at indoor targets.



Commercial Indoor Ranges

Within the past year or two the commercial indoor archery range has reached maturity. Formerly these establishments were commonly found along midways at County Fairs and at seaside resorts along the boardwalk. They were of poor quality and had no appeal for anyone who knew even the rudiments of archery. Today the archer and the general public have the opportunity to shoot indoors on archery ranges that compare with the best bowling lanes in the country. At Mt. Ephraim, N. J., on the Black Horse Pike one mile north of the Walt Whit-

man Bridge the BOW-L-ARROW Lanes is devoted solely to archery. It has eight shooting lanes, a modern pro shop which handles modern archery tackle for sale and provides rental tackle for those who do not own their own equipment. Professional instruction is available by the owner, a former Pennsylvanian, Bruce J. Bourquin, and the beginner is provided with a suitable bow and arrows spined for the weight of the bow. As you enter this modern archery setup you find a beautiful lounge with tiled floors, broadloom carpet with sponge rubber underlay. Players' seats are upholstered. To the rear of the shooting lanes is the administrative office and pro shop. Famous name bows are on display and may be purchased along with arrows and all necessary tackle. A beginner or an expert will find equipment that meets his requirements.

Individuals or Tournaments

Patrons may shoot as individuals or teams may compete in league tournaments which may be scheduled at regular intervals during the season. The lanes are open all year round with league competition scheduled for the fall and winter season. One of the banes of the archer, walking up to the target to retrieve arrows, has been overcome by using electrically controlled target butts which when a button is pressed at the shooting line rolls back to the shooter's position. When the arrows have been removed, a flip of the switch and the butts roll forward to the shooting position. Two lanes operate as a unit, and the danger of walking into the shooting area to retrieve arrows has been entirely eliminated. Should you miss the butt and your arrow falls on the floor a rubber broom attached to the bottom of the butt will sweep your arrow back to the shooting position.

Like Bowling

The shooting distance is twenty yards and games may be based on 30 arrows for which a charge of 50 cents



RETRIEVABLE TARGETS are handy and safer. The shooter merely presses a button and the targets come to him. These targets are at the BOW-L-ARROW Lanes in Ephraim, N. J.

is made for each game. Equipment can be rented for an entire evening for 50 cents. The Chicago Round is also offered to advanced shooters at $1.50. The most popular game is aptly named BOW-L-ARROW. It follows closely the game of bowling and is scored in a similar manner. For example if the first arrow scores a gold it is recorded as a strike, etc. For group affairs, a board may be rented for $7 per hour. The board provides shooting for eight archers.

A league meeting room is furnished for the convenience of the leagues and spectator chairs are available. A central system of controls is incorporated into the system. The lanes can be set to permit a set number of returns of the target. Players control the movement of the target from the scoring tables at the rear of the shooting positions.

Leagues for the Experienced

For the experienced archer competition is provided by leagues composed of four-man teams with three alternates or a total of seven men. Each league consists of eight teams. There are no classes or divisions involved. To provide competition handicaps are used. Records are kept by each league. For example, a team could conceivably be made up of a 400 Instincter, a 400 sight shooter, and two bowmen.



CAREFUL AIM is taken by this young lady at a commercial indoor archery range in Hagerstown, Md.

Team A could possibly make 300, and team B shoot 200. Team B is now given a handicap of 70 per cent of the difference between its score and that of team A. In this instance the figured handicap would be 70 and team B would be entitled to add this 70 points to its total score the next time it shoots. This will permit team B to give team A a run for its money the next time they compete against each other.

The BOW-L-ARROW LANES are located at 170 N. Black Horse Pike, Mt. Ephraim, N. J. Clubs from New Jersey, Pennsylvania and other nearby states are entering one or more teams that are shooting the lanes this winter.

If you plan to shoot these lanes as a team for the first time it would be well to write Bruce J. Bourquin, the owner, and reserve shooting space for the number of archers who want the pleasure of shooting on the finest indoor range in this section of the country. There are eight lanes available but you will be taking a chance if you figure you can just walk in and start shooting at the height of the winter season.

Pennsylvania's Forest Future Bright for Next Generation

Pennsylvania, with growing forests occupying more land than all other land uses combined, faces a "promising forest future," especially for the next generation, according to a new compilation of facts and figures on the state's timber resources.

"Pennsylvania Forest Facts," just published by the Pennsylvania Forest Industries Committee, points out that the demand for wood and wood products throughout the state and nation is mounting. While the demand is increasing, rejuvenated Keystone State forests, covering 52.7 per cent of the land area of the state, are growing far more wood each year than is being removed for use or lost to natural causes.

The new forest report says that Penn's Woods are growing approximately 137 per cent more wood each year than is being cut or lost. The statistics show timber growth of 677 million cubic feet in trees five inches in diameter or larger. Of this vast amount of wood, only 154.2 million cubic feet are cut for use, while another 96 million cubic feet are lost to natural causes—fire, insects and disease. Thus, there is annual net surplus of 426.8 million cubic feet.

The booklet cautions, however, that this picture is not as favorable for the immediate future as it would seem. Much of the growth is on trees which are still a number of years away from practical harvesting size even though they are classified as saw timber. And some growth is on trees which have little commercial value because of defects—poor shapes, fire scars and rot. Included also is growth on tree species which now have little or no commercial use.

The booklet adds that the growth figures do demonstrate "the productivity of Pennsylvania's forest soils" and show promise of even greater timber growth as more of the forests are brought under good management.

The American Cowboy and Civil War Veteran Are Indebted to . . .



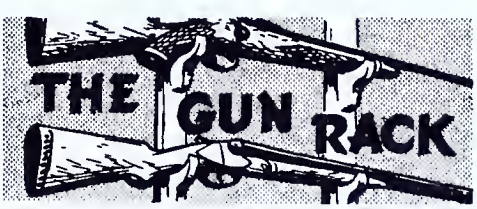
POPULAR REVOLVERS of that era are (left column) Colt Model 1860 Army .44 cal., Rogers and Spencer .44, Remington Army .44, Freemans Patent, (right column) Allen and Wheelock .44, Pettengills Patented concealed hammer .44 double action made by Rogers and Spencer, and Starr double action .44.

Martial Percussion Revolvers Of 1861

By Jim Varner

Part I

JANUARY is the month of short daylight and long nighttime periods. Mother earth is now in its dormant cycle here. Most all of the lower forms of life and some mammals are in the process of hibernation. Beneath the snow uncounted billions of seeds lie on earth's breast, with the chilled roots of plant life in the humus awaiting the time when life-giving juices will begin to flow again. Ponds and





NORTH AND SOUTH SKIRMISHERS on the firing line at Lake George, N. Y., matches. All makes were used, but Colt and Remington were preferred.

lakes are sealed with ice and all of nature's sound expressions are muted in harmony with the low-key tempo of the season.

This tranquil period naturally permeates the souls and thoughts of our good readers as they spend more time seeking the comfort of their firesides by relaxing and reading more thoroughly good books and magazines of their choice.

We have discussed various subjects during the year in our attempt to be in accord with the shooting season. In this issue and the next let us face about and discuss some inventions that made history over one hundred years ago. Perhaps, a complete change of subject will enlighten all of us. Pull your chairs in a closer circle as we have a session on "The Martial Percussion Revolvers of 1861."

Most of us agree that the credit for revolutionizing the design of handguns goes to Sam Colt. His early Paterson Colt embodied all the basic features of revolver construction necessary to a multiple firing small arm. However, the idea of such a revolving arm utilizing the convenience of the percussion system dated back as far as the ancient matchlock. Since the first primitive matchlock revolving mechanism was hand-turned and fired, the idea of accomplishing multiple firing by means of a cylinder persisted rather than the more awkward and clumsy multiple barrel method. The "pepper-box," or multiple barrel, was never practical in a long gun under any consideration.

We will not tire our readers with further discussion of the rather painfully slow development of the 1836 model Colt Paterson down to the Mexican War with its huge, and formidable, Colt-Walker model. The Walker was discussed quite thoroughly in the September, 1961, GAME NEWS under the title "The 200-Yard Revolver." Other manufacturers copied and failed. Despite close imitations, no inventor was able to approach the popularity of Colt's "equalizers."

Need on the Frontier

Around the middle of the century the demand for Sam Colt's six-shooters was given a steadily increasing boost by immigrants seeking adventure and new homes beyond the North Platte, the Cheyenne and the Rio Grande. The sturdy empire builders of the day who could afford a pair, or at least one, of the heavy calibered Colts on his belt felt it was the best form of insurance he was able to purchase when his family, his livestock, as well as his own life were at stake. In the hands of a good man it had a way of changing things suddenly.

Around this era our country was developing other pains besides "growing-pains." An ominous cloud was developing on the horizon of our national

tranquility. Like a midwestern tornado that slowly builds up all afternoon on a stifling day, then lifts just at sundown, the cloud of events which led up to the great Civil War was upon the nation. It took years to form but when it broke nature's storm was a pigmy by comparison.

Rush for Arms

Digressing from the American history subject, this holocaust immediately started a mad rush of inventions, as all wars do, by individuals whether inventive geniuses or not. Not all were attempting to cash in on the opportunity from a patriotic impulse, however. Both sides needed arms badly and quickly. The ordnance departments of both North and South grabbed frantically not only for artillery, rifles, muskets and nondescript old-time single-shot pistols, but for everything new that came out.

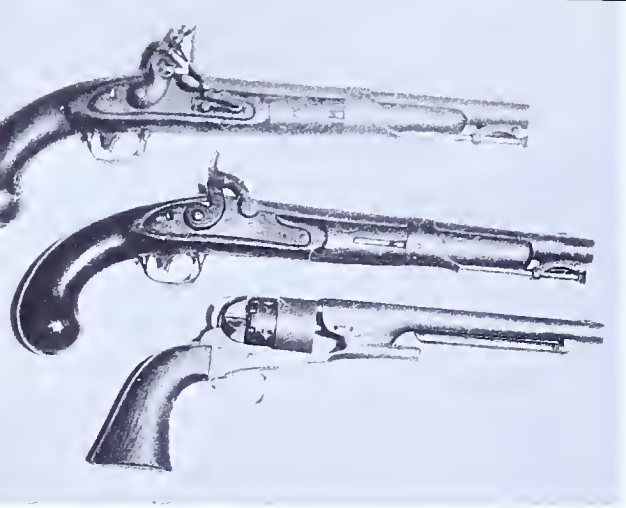
Many hours of persistent research through the archives of our Ordnance Department available shows the purchase of the following Martial Percussion Revolvers in line with their acceptability and proven value, from April 13, 1861, to April 3, 1866:

From Colt Patent Firearms Co. 129,-200 revolvers were delivered for Civil War use. Remington, then known as E. Remington and Sons, delivered 119,713. Starr Arms delivered 41,100. Savage Arms Co. delivered 10,000. Rogers and Spencer delivered 2,000 of their Pettengill Army models and 5,000 of their Rogers and Spencer Army models. Eli Whitney delivered some 7,000 of their Navy models which made a grand total of about 314,000 revolvers delivered by these six firms against a total of 373,819 purchased during the war. This was approximately 85 per cent of the arms delivered to our Ordnance Department. The 15 per cent included purchases from Adams, Allen, Beals, Joslyn, Le-Faucheaux (French), Perrin, Kerrs's Patent and numerous miscellaneous suppliers, all interested in hitting the "jack pot" with their new rapid fire revolvers.

Colt occupied first place by a small margin. Whether they were .36-caliber Navy models or .44-caliber Army they followed pretty much the same streamlined contour. The Navy models usually weighed around 2 pounds 4 ounces, had 7½-inch barrels and fired six times, although some were 5-shot chambers. The Army models of 1851 and the later 1860 were .44 caliber, had 8-inch barrels and weighed around forty ounces (2½ lbs.). This was the principal hand weapon used in the War Between the States. This is one grand handgun. Some 18 different versions and barrel lengths of these two revolvers were purchased to fit a special job, but basically they were

LOADING A COLT is John Rawls, of the Smithsonian Institution, Washington, D. C. His scores with the Colt Army .44 approach closely the best made by modern target revolver shooters.





OLDER REVOLVERS used before multiple-shot revolvers were perfected. Top is the Simon North flintlock single-shot of 1800 to 1825. Next is the Simon North percussion military pistol, and finally the famous Colt .44 percussion revolver.

all the same. Collectors and firearm enthusiasts find it increasingly difficult to obtain any of the percussion Colts in even fair condition. At the present they are in strong hands.

As previously stated, E. Remington and Sons ranked second to Colt in the number of revolvers which received their supreme test during the course of the Civil War. Their six-shot Model 1858 Navy, in .36 caliber with a 6½-inch octagon-shaped barrel is among the rarest of the early Remingtons. The same revolver with the fluted cylinder is marked "REMINGTON'S ILION, N. Y. PATENTED SEPT. 15, 1858." These are valuable collection items.

Their caliber .36, 6-shot Remington New Model Navy revolver, introduced in 1863, is mechanically similar to the big .44 caliber Army New Model of 1863. It was regularly furnished with a 7⅜-inch full octagon barrel and tipped the scales at two pounds ten ounces.

The most prevalent Remington Civil War model, however, was the big .44 Army mentioned above. This formidable revolver was 13¾ inches long, had an 8-inch octagonal barrel and weighed two ounces short of three pounds. It had a six-shot cylinder, was considered of stronger construction than the Colt, by many, and possessed some noteworthy features in its design. One very fine feature was the provision for hammer recession between nipples which permitted it to be carried safely with all six cylinders loaded with the hammer down. Its solid frame with a top strap made it very rigid.

Both of above models used combustible cartridges but also could be conveniently loaded with loose powder and ball, where no attempt at speed in reloading was necessary. We believe we are safe in saying, the 1863 New Model Remingtons were right along with the famous Colts in representing the highest in development of the percussion revolver. Perhaps we should mention the barrel of the .44 New Model was marked, "PATENTED DEC. 17, 1861. MANUFACTURED BY REMINGTON'S ILION, N. Y."—this for our collectors. America's tremendous superiority over all other nations in revolver construction commenced with these two great guns—COLT and REMINGTON, and none other have even remotely equalled them. Our Colt, Smith and Wesson and Ruger "power-house" constructed revolvers are so far ahead of any similar product made elsewhere in this world there is absolutely no comparison. The same can be said for automatic pistols. Let us be fair and blame ourselves if we are unable to "lick" the users of foreign automatics with our American arms.

Next to the Colt and Remington, we consider the revolver manufactured by Eben T. Starr as possibly the third best Martial Revolver of the Civil War period. We will say more about this one later.

Further discussion of all of the revolvers mentioned, including near freaks and others not listed, will be continued next month.

We are indebted to our good friend and antique firearm collector, Jay Miller, of Clarks Summit, Pa., for making available many of the unusual firearms recorded by our camera. We hope you profit from them.

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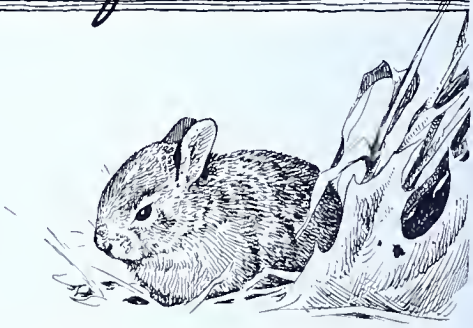
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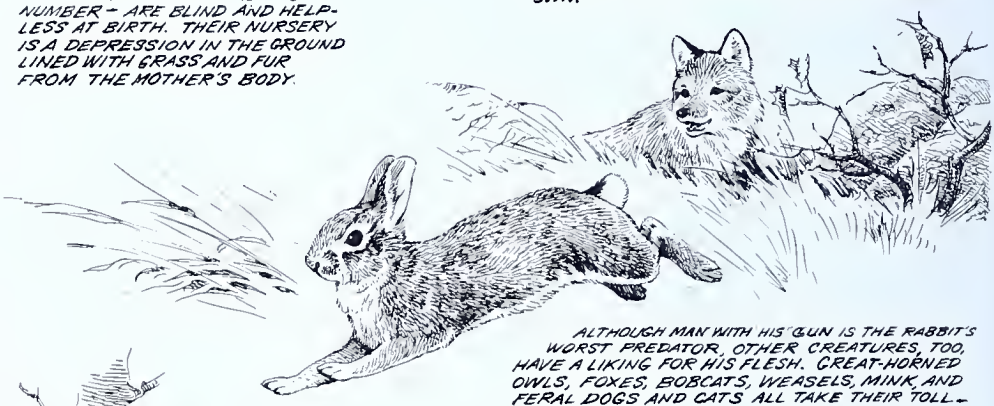
the COTTONTAIL
everyone's favorite



INFANT COTTONTAILS – 2 TO 9 IN NUMBER – ARE BLIND AND HELPLESS AT BIRTH. THEIR NURSERY IS A DEPRESSION IN THE GROUND LINED WITH GRASS AND FUR FROM THE MOTHER'S BODY.



AT ABOUT 2 WEEKS OF AGE THEY LEAVE THE NEST. FOR A WHILE THE FEMALE VISITS THEM NIGHTLY BUT BY THE TIME THEY'VE REACHED THE AGE OF 3 WEEKS THE YOUNG COTTONTAILS ARE WEANED AND ON THEIR OWN.



ALTHOUGH MAN WITH HIS GUN IS THE RABBIT'S WORST PREDATOR, OTHER CREATURES, TOO, HAVE A LIKING FOR HIS FLESH. GREAT-HORNED OWLS, FOXES, BOBCATS, WEASELS, MINK, AND FERAL DOGS AND CATS ALL TAKE THEIR TOLL – TO SAY NOTHING OF THE RUTHLESS AUTO.



BECAUSE IT RELISHES A VARIETY OF LEAVES, STEMS, AND FRUITS FOOD IS SELDOM A PROBLEM FOR THE COTTONTAIL, ALTHOUGH PROLONGED DEEP SNOWS WILL FORCE IT TO EAT SUCH UNACCUSTOMED FARE AS TREE BARK.



ALL IN ALL, THE COTTONTAIL NEEDS LITTLE HELP FROM MAN TO GET ALONG – WITH ONE EXCEPTION. HE MUST HAVE AMPLE COVER TO ESCAPE THE ONSLAUGHTS OF WEATHER AND PREDATION. BY PROVIDING IT WE CAN ALWAY BE SURE OF A SATISFACTORY COTTONTAIL POPULATION.

NED SMITH

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COVER: A typical scene of Pennsylvania's "Sugar Bush" in February. Production of maple syrup and sugar is important in many sections of the state, particularly in the northern counties and Somerset and Bedford Counties. Farm lots annually produce about 102,000 gallons of maple syrup and 27,000 pounds of maple sugar. About 414,000 trees are tapped for these products.

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EDITORIAL . . .

Old Bitter

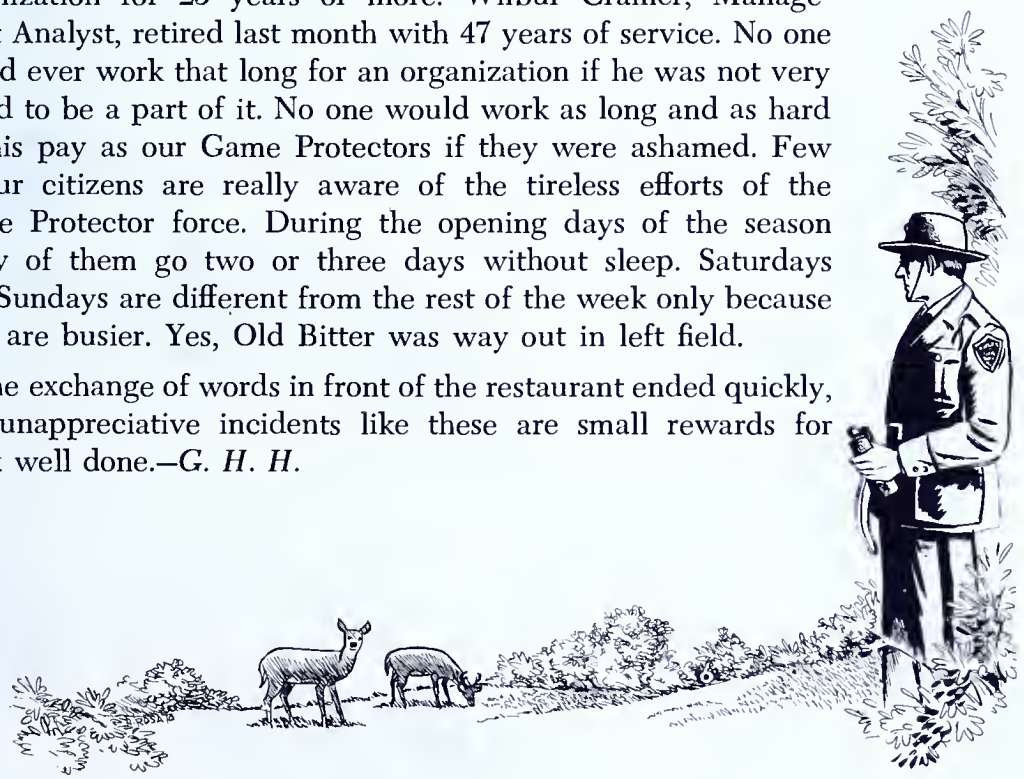
ON A recent trip to the Northwest Division, we were introduced to a Game Protector standing outside a restaurant as a "fellow Game Commission employe." An unsuccessful deer hunter overheard the introduction and quipped, "if I worked for the Game Commission I'd be ashamed to admit it." The three Game Protectors and two Game Biologists standing there were somewhat provoked but managed to retain their dignity.

This bitter deer hunter must have felt that the reason he didn't get his buck was because the Game Commission had not provided one for him.

If our deer hunting "friend" was really serious in his remark, he could not have been further from the truth. The Pennsylvania Game Commission, as a matter of fact, is composed of dedicated and proud people. As a newcomer, I am often amazed at the loyal spirit displayed throughout our six field divisions.

Mr. Bitter Deer Hunter would be surprised, we think, if he knew that 62 of our 316 salaried employes have worked for this organization for 25 years or more. Wilbur Cramer, Management Analyst, retired last month with 47 years of service. No one would ever work that long for an organization if he was not very proud to be a part of it. No one would work as long and as hard for his pay as our Game Protectors if they were ashamed. Few of our citizens are really aware of the tireless efforts of the Game Protector force. During the opening days of the season many of them go two or three days without sleep. Saturdays and Sundays are different from the rest of the week only because they are busier. Yes, Old Bitter was way out in left field.

The exchange of words in front of the restaurant ended quickly, but unappreciative incidents like these are small rewards for work well done.—*G. H. H.*




MINK
MUSKRAT
OPOSSUM
BEAVER
STRIPED SKUNK
RACCOON
OTTER
NED SMITH



WALKIN' SHOES

By NED SMITH



Our Interesting Fur Bearers

1. What is the largest rodent in America?
2. Raccoons wash all their food before eating it. True or false?
3. Does the opossum produce valuable fur?
4. How does a muskrat's tail differ from that of a common rat?
5. Otters are fond of fish. True or false?
6. What is the beaver's favorite food?
7. What predator frequently dines on skunk?
8. What is an otter slide?

A FEW centuries have passed since Dutch and Swedish fur traders bought pelts from the Indians on the Delaware and Susquehanna Rivers, but trapping in Pennsylvania has never lost its appeal. Even today, with fur prices discouragingly low, many an outdoorsman yields to the lure of the trapline, and rural and small town boys still earn spending money with number one "jumps."

Most of Pennsylvania's mammals produce marketable pelts. For regulatory purposes, though, the Game Commission classifies as fur bearers only the muskrat, mink, otter, beaver, opossum, and skunk. This article includes only these mammals plus the raccoon, which in spite of its game animal status is a fur bearer in every sense of the word. The foxes and weasels, most important of the other fur-producing mammals, have been treated in separate articles.

In a way it's unfortunate that fur bearers must forever wear a price tag on their heads. The dollar mark makes it difficult for most of us to see them for what they are—tremendously interesting creatures with strange and fascinating ways. They are all worthy of the outdoorsman's study. The big beaver, his skillfully made dam, lodge, and other monuments to his ambition, are unparalleled subjects for the snooping wildlife student. The playful otter, whose life is a glorious mixture of eating, swimming and frivolity, is the nearest thing to human in the forests, and that mammalian curiosity, the opossum, is a bundle of unbelievable facts wrapped up in a furry hide.

This article merely touches the high spots of each animal's description and habits. You can add reams of information to each sketchy biography by looking for signs of these wild neighbors on your very next field trip afield. Their tracks in the snow will immediately tell you where they live and a careful and thorough study of the tracks and other sign will reveal a great deal more. Although most of these creatures are principally nocturnal there's not a one that might not be observed in daytime at one time or another. Muskrats, mink, and otter

are often active during daylight hours, and it's not unusual to see skunks, beavers, and opossums about at that time, too. The raccoon is seldom up and around during the day, but can sometimes be spotted in his favorite snoozing tree while the sun is high overhead.

MUSKRAT

Resembling an overgrown rat, this large rodent weighs two or three pounds and measures about a foot in length, excluding the long tail. The latter is practically naked and flattened from side to side. Briefly, the muskrat's color is a rich chestnut brown, paler on the sides of the face and the underside of the body. The front feet are small, but the hind feet are large, partially webbed, and fringed with stiff hairs. The eyes are small and beady, and the furry ears are nearly hidden in the dense coat.

The muskrat is found wherever there is a small stream or pond. If the shoreline is steep and high enough he'll excavate a tunnel and call it home. If there's no suitable shoreline he'll build a conical heap of marsh vegetation and make his living quarters in a chamber therein, situated above the waterline. An underwater entrance provides access. The muskrat's propensity for digging has made him notably unpopular among farmers whose meadows he undermines and whose farm ponds he drains.

The bulk of the muskrat's diet consists of aquatic plants, the cattail being the most heavily utilized where available. He is not above feeding on clover and corn (young shoots or ears in the "milk") if they are handy. Freshwater mussels are eagerly eaten, and crawfish, fish, and frogs are occasionally sampled.

The muskrat's pelt is of good quality and enjoys sustained popularity. Individually, a muskrat pelt is not as expensive as a mink, for instance, but because of the numbers taken the 'rat is Pennsylvania's most valuable fur bearer.



BEAVER POND

MINK

The handsome mink is a larger cousin of the weasel's. A good-sized male measures 16 or 17 inches in length, excluding the tail, while the female is several inches smaller. The color is a deep, rich brown, the dark and lustrous guard hairs shading to nearly black on the tail. The chin is white.

Mink are fond of water and do most of their hunting along streams and lake shores. The males travel widely and continuously, stopping here and there to find shelter in dens or hollow logs but having no permanent home. The females, less given to wandering, usually return to the same home burrow.

The mink is an efficient mouser, and will take rabbits, birds, and sometimes even poultry if the opportunity presents itself. In the water his swimming ability enables him to catch fish, and he is fond of frogs, crayfish, and muskrats, as well.

Few mammals exhibit the fearless savagery of the mink, and consequently only such superior predators as the fox, bobcat, and great horned owl are a serious threat to his life. Man and his traps, of course, have the final say, for even in this age of

ranch-reared mink men and boys still enjoy following the trapline. In the case of the mink, the incentive is one of the world's most sought-after pelts, a fur that is lustrous, long-wearing, versatile, and—most important—fashionable.

OTTER

Unfortunately the playful otter is all too rare in Pennsylvania, being confined chiefly to the lake country and a few of the larger unpolluted streams in the northern counties.

Although Pennsylvania does not at present permit the trapping of otters, they are known to produce extremely beautiful, durable, and valuable pelts. The pelage is a lustrous dark brown, paler on the muzzle, cheeks, and underparts. These paler parts frequently have a silvery sheen. The head is flat and broad with a thickly be-whiskered muzzle. The neck is stout, the body elongated, and the tail heavy at the base and tapering to the tip. The legs are short, but sturdy, the toes of all feet webbed. A large male will attain a head-and-body length of nearly a yard, but the average is much less.

Except when crossing from one watershed or lake to another the otter is seldom found far from water. It is a spectacular swimmer, easily outdistancing and capturing the swiftest fish, and can remain submerged for up to four minutes. Often traveling in family groups, both young and old spend much of their time in play. Sliding down snow-covered banks or muddy slopes on their bellies is one of their favorite sports, and even when running across level snow their loping progress is interspersed with frequent "belly-whoppers."

Fish, crawfish, and frogs make up the bulk of the otter's diet, but turtles, snakes, birds, muskrats, and insects are sometimes eaten.

BEAVER

Once trapped to extinction the beaver has now been successfully re-



HIND FOOT OF A BEAVER

HIND FOOT OF AN OPOSSUM

established in the Keystone state. America's biggest rodent, large specimens will weigh sixty pounds or more and measure three feet in length, exclusive of the tail. It is dark brown in color above, with a somewhat paler face and underparts. The black, scaly tail is flat as a canoe paddle. The forefeet are small, but the hind feet are very large and completely webbed.

Beavers are famous for the dams they build. Varying in length from a few to several hundred feet these sturdy structures consist of small trees and branches which the beavers have felled and cut into suitable lengths, together with mud, leaves, and stones dredged up from the stream bottom. The purpose is to provide deeper water in which to escape from danger and to facilitate transporting distant trees. Almost as remarkable is the beaver's house or lodge, a huge mound of sticks and mud, containing an above-the-water living chamber. The entrance is submerged.

Beavers live almost entirely on the bark of various trees. In Pennsylvania their favorites are the aspens, with birches, willows, hornbeams, wild cherry, and others frequently utilized. During the autumn months branches are gathered and stored in a huge heap in deep water near the lodge, where they are available even though the pond freezes over.

OPOSSUM

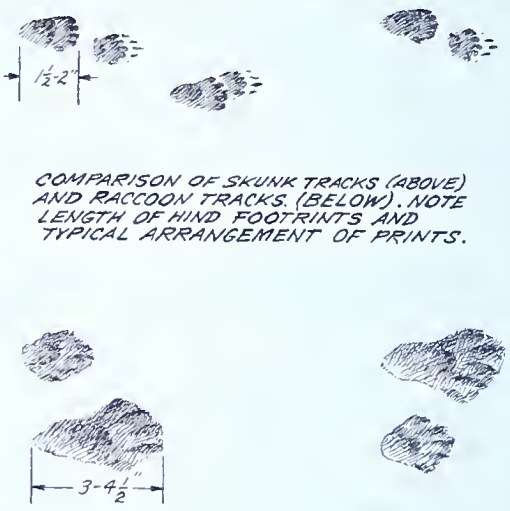
Although legally classified in Pennsylvania as a fur bearer, the pelt of the opossum is nearly worthless. Nevertheless, the animal itself is of interest as the only North American marsupial (a mammal that carries its young in a pouch). It is a strange-looking creature about the size of a house cat, with a long snout, a naked, prehensile, rat-like tail, and naked black ears with white tips. The hind feet are fitted with opposing "thumbs." The pelage of the opposum consists of white underfur, in places tipped with black, and white guard hairs. The combined effect is a silvery-gray appearance.

Home to the opossum is an abandoned ground-hog, fox, or skunk den, a hollow log, or similar shelter where he can snooze away the daylight hours. After nightfall he wanders about over field and wood lot hoping to pick up a meal—which to a 'possum, might mean a clutch of quail eggs, some beetles and ants, a couple of fallen ears of field corn, a highway-killed skunk, or some frost-ripened persimmons. Br'er Possum eats practically anything.

Baby opossums are remarkably small at birth—roughly the size of a honey bee — and less completely developed than the young of any other American mammal. They remain in the pouch for ten or twelve weeks before venturing out to ride about on the mother's furry body, and stay with her until reaching the age of about three and a half months.

SKUNK

If prejudice can be forgotten it must be admitted that the skunk, with its long silky hair, is an attractive animal. It is primarily black, but the amount of white in the pelage varies from a tiny white forehead spot to more than half of the entire pelt. The average pattern is black with a white crown and a white V-shaped mark extending from the crown to the hips. The tail is long and bushy, and is frequently marked with white.



COMPARISON OF SKUNK TRACKS (ABOVE) AND RACCOON TRACKS. (BELOW). NOTE LENGTH OF HIND FOOTPRINTS AND TYPICAL ARRANGEMENT OF PRINTS.

This creature's best-known feature is, of course, its musk. As a means of self-defense nothing can beat the unspeakable choking stench of the liquid that is expelled from the skunk's scent glands when frightened or angered. It has caused strong men to faint dead away, and can hold at bay the fiercest predators. Only the indomitable great horned owl dines on skunk with any degree of regularity.

Home to the skunk is a burrow in the ground, in a stone pile, or beneath a building. An abandoned ground-hog hole is perfect, but when necessary the skunk can excavate its own den. The young, usually four to six, are born in late spring or early summer and follow the mother on her nightly rounds when six or seven weeks old.

Insects are the skunk's favorite food—the list including grasshoppers, crickets, beetles, grubs, bees, and countless others. The smelly one also relishes mice and rats, which it usually takes from the nest. Bird eggs are sometimes eaten; turtle eggs more frequently dug up and devoured. Carrion is not passed by, neither are many fruits and grains. Taking everything into account, the skunk's food preferences are more beneficial than harmful.

RACCOON

Two of the 'coon's features are outstanding—his black bandit's mask and his furry, ringed tail. Other less distinctive physical characteristics are a grizzly gray-brown pelage, a head-and-body length of up to two feet, a pointed muzzle, prominent ears, and a broad, amusing face. The forepaws are long-fingered and dexterous; the hind feet are long and flat-soled. Although long-haired furs are no longer the vogue the raccoon is one exception—due chiefly to a combination of Davy Crockett hats and the recent coonskin coat revival. It is a popular game animal, too, and avid 'coon hunters have no time for sleep when conditions are right for trailing old Ringtail.

Although it occasionally dens in an old ground-hog burrow or natural cave the 'coon prefers a big old hollow tree for a home. The young, one to six in number, are born in spring or summer and usually stay with their mother until the following spring.

Raccoons do practically all their hunting during the night. Contrary to popular belief, they do not "wash" all food before eating it—in fact, the tendency to do so varies greatly with the individual. 'Coons are most omnivorous. They'll smack their lips at the sight of almost anything, including corn, grapes, frogs, crayfish, birds, young rabbits, cherries, snails, grasshoppers, snakes, berries, and carrion. Because of their strength and determination they are among our most effective predators, and many a good 'coon hound has been thoroughly whipped by a large and angry ringtail.

ANSWERS TO QUESTIONS

1. **The beaver.**
2. **False. Some douse much of their food, others little or none.**
3. **No, its fur is of little value.**
4. **It is flattened laterally.**
5. **True.**
6. **Tree bark. Aspen is probably their favorite.**
7. **The great horned owl.**
8. **A slippery clay or snow bank where otters "toboggan" on their bellies.**

Book Notes...

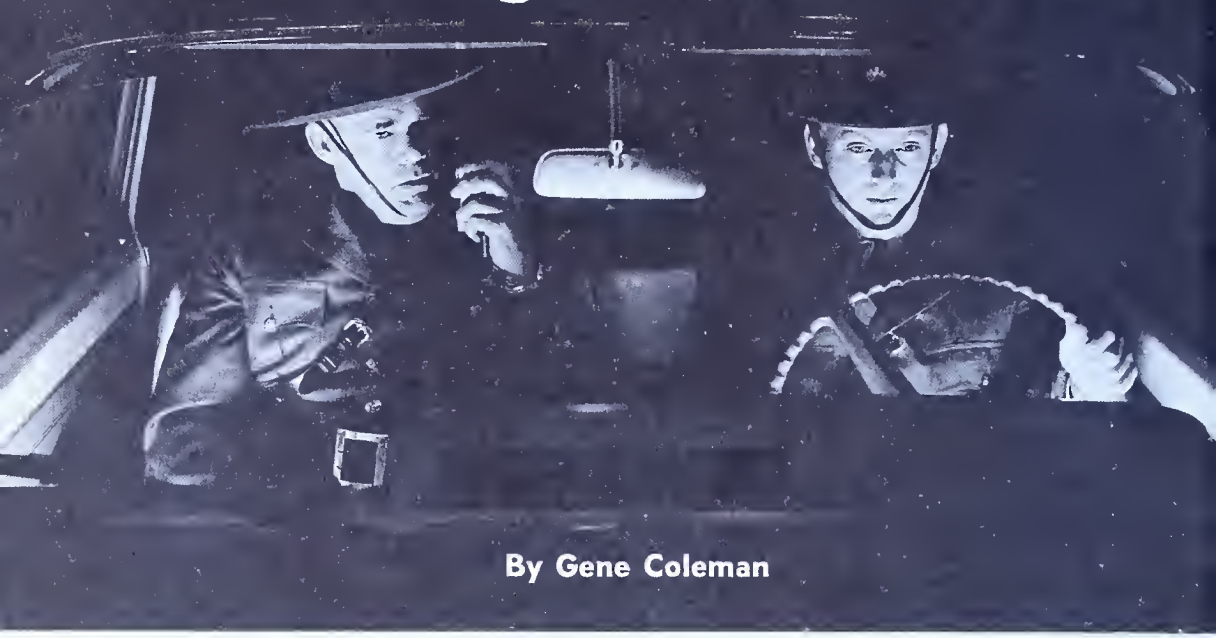
DUCK STAMP BOOKLET

A new booklet, prepared essentially for the information of stamp collectors by the U. S. Fish and Wildlife Service, also should be of considerable interest to sportsmen, according to the Wildlife Management Institute. Entitled "Duck Stamp Data: Background and Technical Information for Collectors," the booklet pictures and gives pertinent details about each of the 28 Duck Stamps that have been issued since the program to get dollars to help buy essential wetlands for ducks and geese was initiated back in 1934.

The introductory text tells the need for the program and how it began, cites amendments to the original Migratory Bird Hunting Stamp Act, comments on protective legislation for waterfowl, and relates how the stamp designs are selected and the stamps printed. One brief paragraph relates, in a general way, how the Service uses the funds to benefit waterfowl.

Copies of the interesting booklet can be obtained from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., at 30 cents each. Ask for Circular 111.

Night Patrol



By Gene Coleman

Photos by Charles Thomas

GUARDING THE RIGHTS of other sportsmen and facing the unexpected are two of the principal ingredients of night patrol work. Here, Game Protector Steve Kish sends out a call over short wave radio as Game Protector Jack Altmiller guides the car over a back road in Lackawanna County, their territory.

Long Nights of Thankless Work . . .

THE sedan braked gently on the two-lane blacktop road which branches out from the busy Scranton-Mount Pocono Highway and nosed easily through the darkness onto an almost imperceptible hay wagon track leading into the sprawling field.

It edged closer to the hedgerow on the side of the field with its headlights poking a tunnel of light ahead until finally, the lights winked out, the motor snicked off and the darkness closed in quickly. Inside, the two Game Protectors settled down for what might be a long wait—a very long wait on this portion of their night patrol.

Then, the unexpected occurred! It was only about a half hour when another set of lights, off in the opposite direction, washed over the field from the road edge several hundred yards away. They hesitated, turned sharply into the field and stopped dead.

The sharp bark of a heavy caliber rifle ruptured the frosty stillness and the headlights caromed around with a motor roaring in the background—back to the field edge where the white lights were replaced by the red glow of a disappearing taillight on the rear of a pickup truck as it slewed back onto the blacktop and raced off toward the busy highway a mile or so away.

The officers watched without making a move. They knew the action was only half over. Theirs was the knowledge of experience and previous nights of dogged watchful waiting. And it paid off!

Within 20 minutes headlights swept the far edge of the huge field once more; this time they were those of a

car. It headed into the field, stopped and the lights winked out. The Game Protectors in their own darkened car waited a few minutes, then the one behind the wheel keyed the motor into life and—with lights out—hummed almost soundlessly from the hay wagon track back to the roadway.

They coasted down the blacktop until they were abreast of the car in the field. At that moment, the lights of the other car glared into life and the sedan headed for the road.

Two Nabbed

The two men inside that car never made it the few hundred feet to the road. They were brought to a jolting stop by the sedan blocking their way. Within a minute and a half they were out of their car, together with the deer which had been hurriedly crammed into the trunk, and under the watchful eyes of the Game Protectors.

Two more jacklighters had been nabbed and the Game Protectors chalked up another night patrol successfully completed.

This happened not too long ago. It was routine and almost commonplace and is an incident repeated scores of times across the state. But all night patrols are not so "uneventful."

Probably the least known-about phase of the Game Protectors' activities is this tedious, monotonous and many times dangerous assignment.

It is a necessary part of their work in an effort to curtail the activities of the grand larcenists of the woodlands who rob and steal from every other hunter in Pennsylvania, a land of nearly 1,000,000 hunters.

Basically a Thief

For all intents and purposes, the jacklighter, outlaw, violator, bandit or any other name by which he's known is basically a thief. He works under the cover of darkness to take a deer or any other game which tomorrow might provide lawful hunting and recreation for any one of the nearly 1,000,000 other sportsmen. As such, he must be met on his own terms, in the dark by law enforcement officers operating unobtrusively and swiftly.

Unfortunately, few sportsmen ever get the chance to see what goes on in their own back yards, as it were, through the eyes of the officer on night patrol.

I've been fortunate enough to make night patrols with some of these Game Protectors. I talked to some of the officers who make these patrols season after season and find themselves facing the unexpected and unknown more often than they can recall. For the most part, they are unwilling to "blow their own horn."

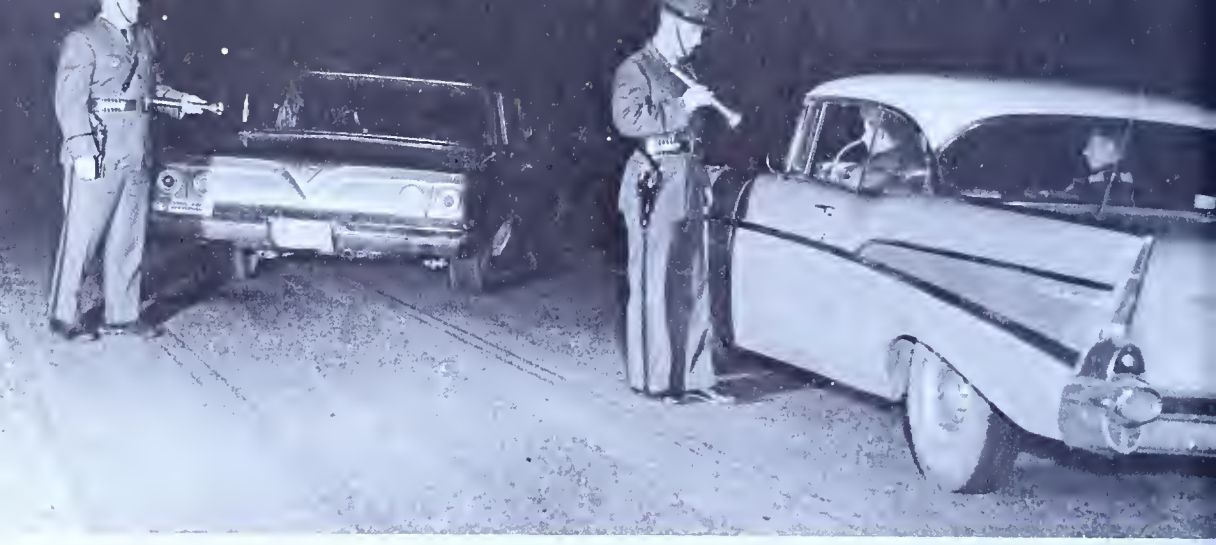
Always the Unexpected

Their experiences run the gamut of danger to routine, of drama to sheer humor. But through it all is woven the thread of the unexpected. Most of these incidents have happened to many other Game Commission officers, some more dramatic, some producing bigger catches of violators and some, possibly, that are difficult to believe until you get a look at the record. But they happen with unfortunate regularity across the commonwealth's 67 counties.

I am particularly indebted to Lackawanna County Game Protectors Steve Kish and Jack Altmiller and to John C. Behel, conservation information assistant in the Northeast Division Headquarters, as well as to Northeast Division Supervisor Roy W. Trexler who assisted in helping get together some of the background of what happens on some of these night missions.

Vital statistics such as names and addresses of violators, the type of violation and the ultimate disposition of each case are unnecessary to provide a profile of just what the Game Protector does in protecting the rights of law-abiding sportsmen.

For instance, just ending up a patrol one night, Game Protector Kish spotted a battered car stopped along a main highway just outside of Scran-



SUSPICIOUS LOOKING cars can sometimes get Game Protectors into tricky situations on night patrol. Game Protectors Kish and Altmiller identify themselves and ask occupants to alight for a road check.

ton with one man seated inside and a second hunched under the open hood, pouring oil into the crankcase. On a hunch, the officer stopped, identified himself and asked the routine question, "Are you fellows transporting any game or firearms?"

The look on the face of the guy with the oil can was answer enough for Game Protector Kish and the next step was to unload the illegal, antlerless and untagged deer from the trunk.

Ironically, the whitetail had been shot near Wyalusing, almost 40 miles north up in Bradford County, and the poachers had made it safely all the way to Lackawanna County without being spotted. The real pay-off for Kish came a few days later when he learned the violator who'd been working on the car was on parole after serving time for aggravated assault and battery and had a rather unwholesome record!

Jack Behel recalls the time when he was serving as a Game Protector in Luzerne County and had set up a road check during a night patrol. He and another officer had stopped several cars without incident until they halted one with a very cooperative and pleasant chap behind the wheel. He readily admitted he was carrying several rabbits. It was during the small game season and he was from out of state. However, he said he was not a hunter but that a hunter friend of his had given him the rabbits.

The officers explained that he couldn't take the rabbits out of the state without a nonresident license and he appeared upset, commenting, "Boy, I sure hope this doesn't put me in some kind of trouble—I don't know about hunting or these laws." The matter was straightened out without incident and the rabbits were confiscated.

Next morning, Behel had an early telephone call from the officer who had been working with him the previous night.

"Say, Jack, did you take a real close look at those rabbits last night?" he asked. Behel said he hadn't had a chance but went right to a freezer where the rabbits were on ice, removed them and hefted one. A puzzled look crossed his face as he pondered the weight until he reached inside the carcass of one.

Inside each rabbit were venison chops, artfully stuffed and concealed!

Then there was the night Game Protector Kish and Phil Sloan, now assigned to Wyoming County, set up a brief road check while on patrol. They set up on a dirt road which skirts a State Game Land area near Clifton. They had checked several cars, filled with hunters, and found nothing wrong as the deer season was coming near a close.



IT PAYS OFF sometimes. The officers hit pay dirt in this car trunk. This illegally killed buck will never provide recreation and game for one of the state's nearly 1,000,000 sportsmen-hunters.

In uniform and in the lights of their own car, the two watched another pair of headlights approach down the road. But, instead of slowing, the lights seemed to leap forward. The tortured growl of a straining motor and the clash of gears triggered them into action. Kish leaped headlong into a brush covered ditch as the accelerating car missed him by less than a coat of paint.

By the time he regained his feet and he and Sloan loaded into their car, the speeding vehicle careened out of sight down the dirt road and made it to a crowded highway and safety.

"I don't know what that car had in it but it sure was something illegal," Kish recalls.

Or the time one of Kish's deputies, Charles Thomas, of Moosic, spotted a suspicious looking car early one morning and when he stopped it, its four young occupants came up with very vague answers on just what they were doing prowling around back roads and fields in the darkness.

A stop at a nearby State Police substation prompted the whole story to come out. They had a cute little game going—taking up hundreds of feet of snow fencing, rolling it up and standing it on end on the road around a turn. The pickup by the deputy didn't result in a Game Law violation arrest but who knows the injury or damage to some motorists which was averted?

Sometimes, the officers will tell you, you can barely believe your own eyes at what you find. Take the night Behel stopped a car during small game season. A check of the vehicle unearthed one hen pheasant, 11 rabbits and a skunk.

"So help me!" Behel swears.

Probably some of the most callous cases to come down the pike broke open last year during the mammoth feeding operations carried out for wildlife in several snow-locked sections of the northeast.

Sportsmen, landowners and Game Commission personnel fought drifted snows and subzero temperatures to bring feed in for deer in hard-hit areas and the deer came to it like kids to candy.

Returning home at night, Game Protector Kish stopped at one station which had been set up in the Lackawanna State Forest at Thornhurst. He found three dead deer lying in the middle of the corn and alfalfa which had been placed there to help them survive. Another deer had been shot down as it fed that night but the bandits—or human predators is probably a better description — managed to make off with it.

Similar incidents were reported in other districts during the emergency feeding period and some arrests were



LONELY NIGHT PATROL finds Game Protector Howard W. Bower on a back road near Game Lands No. 91 in northern Luzerne County as he checks in by radio to the Northeast Division Headquarters in Dallas.

made through bulldog efforts of Game Protectors and their deputies.

Officers in metropolitan areas which still abound with nearby Game Lands like some sections of the northeast, find themselves faced with another peculiar breed of violator. This is the trophy hunter and an off-shoot of this is the violator who kills for profit by selling nighttime trophies to out-of-staters who simply must return home with a buck lashed to the fender or roof of their car, no matter what the price.

Jack Behel recalls one such case just a season or two ago where one member of a profit hunter's family apparently felt slighted at being left out of part of the proceeds and literally "blew the whistle" on three others.

Some patient investigative work together with a tip-off on where to be at the right time and a night patrol added up to the arrest of a trio with two deer and who were known to have illegally shot some 22 other whitetails.

Their explanation?

"Well, we found these two deer—must've been hit by a car down the road a way. We're on our way to turn them over to Jack Behel."

Behel eyed the trio and their two deer innocently and answered, "Oh! I see: You—ah—know Behel?" he said.

"Sure, sure; we know him all right," the one shot back.

"That's funny—I sure don't know you and I'm Behel," the officer said in a pleasant tone. That ended that caper.

But before the probe ended—with fines and costs amounting to nearly $1,000 – it was determined that the gang had taken more than 22 deer unlawfully. They were used to pay bar bills, pay grocery bills and some were sold to "trophy hunters."

A lot of us think this jacklighting business is confined to deer. Think again!

Rabbit Spotting

Game Protector Kish remembers the night he spotted a car threading its way down a road with one joker hanging out the window on the passenger's side holding a flashlight. When the car was stopped, the officer found a shotgun on the seat. He had been spotting rabbits along the roadside, "freezing" them with the flashlight and then shooting them.

And the night Kish and his deputy, Thomas, caught a pair of violators red-handed in a pickup truck as they spotted a field for deer. As the officers approached the truck, they heard a clattering noise.

The two suspects denied they were doing anything but "looking at the deer" while Thomas nosed around with a light in the brush.

He came up with a handful of 30-06 rifle, loaded to the hilt and tossed out the window of the truck with a shell in the chamber and the safety off! The officers felt a shiver run down their spines as they began the job of writing up the violators.

Some Are Comical

During one night patrol, passing the long hours, Kish, Altmiller and myself talked over some of the more comical events which happen to a law enforcement officer on such duty.

For instance, the landowner who

excitedly called Kish in the middle of the night to report a jacklighter who later turned out to be a wildlife photographer shooting flash shots at night; or the "pregnant" woman who complained when she was asked to step from a car where a rifle lay propped between her and her husband only to have several packages of venison slip from beneath her dress. And many, many more.

Certainly, the Game Protector will admit he sometimes has to be sneaky on these assignments. But what law enforcement officer from the FBI and State Police on down to a township constable goes around mouthing off the aces he holds in running down a sneak thief of any caliber?

But the Game Protectors won't unfold their full bag of tricks for anyone. But then, why test them out?

Radio—Potent Weapon

Undoubtedly, one of their most potent weapons against the violator, especially in night patrol work, is the Game Commission's state-wide short wave radio network which crackled into life in June of 1960. In addition to the many obvious missions to which the radio setup can be put to invaluable use, it is a vital link with the officers in other cars, headquarters and even portable units which allow an officer to work on foot and still be in touch.

This modern electronic tool gives the Game Protector an edge when he needs a quick check on a license number, to alert other officers with the description of a fleeing, suspicious car or, in extreme cases, to summon help if he needs it. His greatest asset, of course, is his own resourcefulness.

As in the case of most careers, the Game Protector has come a long way since back near the turn of the century. A look at some dog-eared and yellow clippings from newspaper files of "way back when" will show that when they first became salaried employes of the Game Commission, the Game Protectors were met with gunfire instead of cheers in many cases.

In fact, in 1906 there were 14 officers who ended up as targets of violators. Seven were hit, three killed, three seriously wounded and one who suffered lesser injuries.

These were the rough and tough, hurly-burly days when deer were so rare that even tracks in the snow were cause for excitement for miles around. They were the days of patrols on horseback and on foot—and back then they had their night patrols, camping where they found themselves.

This was the period when there were few prophets who looked ahead 100 years and envisioned ruthlessly wasted land and water resources and the inevitable, subsequent loss of wildlife unless something was done.

Possibly one of the best summations of the value of efficient law enforcement relative to hunting was made recently by John Madson and Ed Kozicky of the Conservation Department of Olin Mathieson Chemical Corporation. They maintained, in part:

"Efficient enforcement of all hunting regulations is the keystone of modern game management. Without

DIVISION FIELD OFFICES all have radio contact with their personnel and other field officers. The radio system is the Game Protector's newest and most effective weapon. Mrs. Marie N. Mays operates the Northwest Division office radio here.

PGC Photo by George H. Harrison



law enforcement our game management programs would fail, for all are based on state control of breeding stock and surplus game crops.

"The broad enforcement of game laws does not simply include arrest and punishment, but also public education. Most modern game administrators agree that the Game Warden has a dual job. He is a policeman who specializes in public relations. The modern Game Warden not only makes arrests but works with schools, sportsmen's clubs, civic and church groups, Scouts and many other organizations.

"Most Game Wardens — even the saltiest old-timers — welcome the chance to meet the public in an educational or informal way rather than in strictly a punitive one. An officer's value was once based only on the number of his successful 'cases' but today his value may hinge on the number of successful contacts with school children. The best modern Game Warden is less an enforcer and more a teacher," they contend.

Pennsylvania's Game Protectors fit this mold pretty well. How many of us have seen our district officer speaking at a club meeting only to leave during the hunting season for a night patrol. Then, back up early in the morning to hit the bush again and maybe listen to the gripes of some who consider him something which just crawled out from under a damp rock.

Try to figure it out—the reward he gets from a job well done sometimes just doesn't add up.

Incidentally, one experience a number of officers have had in the night hours is coming upon a car parked on a back road which, upon checking, they find occupied by "neckers." What's the procedure here once you've found what you've stumbled on?

Game Protector Kish summed it up succinctly:

"You—ah—well, you just use common sense; y'know what I mean?"

HEN HOUSE THIEVES

The thief in the hen house always leaves a calling card, observes H. L. Mathews, New Mexico State University poultry specialist. If the birds' heads are missing, the culprit is likely an owl. When several are killed and partly buried, blame a fox. When birds are killed every fourth or fifth night and the crops eaten, suspect a raccoon. And when they're missing entirely it's a chicken thief.

STATE'S FEDERAL AID IN WILDLIFE FUNDS OVER $541,000

Pennsylvania's preliminary apportionment of Federal Aid in Wildlife (Pittman-Robertson) Funds for the federal fiscal year which started July 1 this year amounted to $381,207.38, the Game Commission announced in June.

The Commission has received notice from the U. S. Department of the Interior that a supplemental apportionment of $159,989.15 has been allotted the state, bringing the total for the year ending June 30, 1962, to $541,196.53. This sum is approximately $16,000 less than Pennsylvania received for the last fiscal year.

Federal Aid funds for state fish and wildlife projects are derived from an excise tax on sporting arms and ammunition and on sporting rods, reels, creels, and artificial lures. Distribution of the two funds is made on formulas based upon the number of paid license holders in a state and on its area, as prescribed by law. Both Federal Aid Acts—Pittman-Robertson for game and Dingell-Johnson for fish—are administered by the Bureau of Sport Fisheries and Wildlife, U. S. Fish and Wildlife Service.



PGC Photo by Delbert Batcheler

A NEW APPROACH in turkey management has caused some misunderstanding among Pennsylvania sportsmen. This article prints the facts and explains the reasons for the new look in turkey management.

If You Want to Talk Turkey, Learn the Facts First . . .

Pennsylvania's New Look In Turkey Management

By Gerald A. Wunz
Leader, Wild Turkey Study

"ANY luck?" asked the Game Protector.

"Naw," replied the spokesman from a carful of obviously disgruntled hunters. "We've been driving roads through these hills and hollows all day and haven't seen a single turkey, but no wonder. We heard that the Game Commission trapped over a thousand here and shipped them to Germany!"

Remarks like these are frequently heard by Game Protectors in our northcentral counties, with perhaps some variation as to number shipped out of the county and their ultimate destination. It is time to set the record straight with facts.

First, the number of wild turkeys trapped from the northern counties since this program was begun in 1956 is exactly 198.

Second, none of the wild trapped birds have been shipped beyond the confines of our commonwealth. The only turkeys sent beyond our borders to other states and countries were from surplus eggs or poults produced at our Game Commission Turkey Farm. These were exchanged for other



PGC Photo by George H. Harrison

READY TO FIRE is one of three cannons used with the cannon net trap. Game biologist Geral Wunz arms the cannon in preparation for trapping live, wild turkeys.

game species to be used in our own stocking program.

Now that these angry turkey hunters may be somewhat placated by these facts, a logical question is most certain to come into their minds. Why trap turkeys in the first place and move them someplace else—and where are they going if they aren't leaving the state? This question is going to take a little longer to answer and we must start from the beginning of turkey management in Pennsylvania.

Turkeys were found throughout the state in pioneer days, but this population had dwindled to a few flocks confined to the mountains of the south-central counties by the end of the 19th century. After the formation of the Game Commission, good law enforcement and the establishment of refuges prevented further inroads on the remaining flocks. The turkey was saved, but additional management was needed if the size of the inhabited turkey range was to be increased. To accomplish this a wild turkey farm was established, but it was soon found that pure wild birds would not breed satisfactorily in captivity. Also, when egg production was increased by introducing sufficient domestic strains in the brood stock, the resulting generations proved little wilder than their barnyard cousins. After considerable experimentation, the turkey farm personnel and some of the Game Protectors from the southcentral turkey counties developed an ingenious technique. They developed a method to mass produce eggs sired by pure wild gobblers in predator proof enclosures right in the mountain turkey habitat. The eggs were then gathered and hatched in game farm facilities.

The release of these wilder turkeys produced from southern county birds into the vast forests of the northcentral counties guaranteed the success of a program recognized as a major accomplishment in wildlife restoration and certainly the most sensational in turkey management.

Unfortunately, the phenomenal increase of turkeys in our northern counties, where none existed twenty-five years ago, was marred by a population decrease in many of our original southern turkey counties. Increased hunting pressure, human disturbance, disease, and decreased forest openings needed by the growing turkey broods were considered the causes of this decline. In many areas the population declined to the point where serious turkey hunting was impractical and many of the old turkey hunters began traveling to the northern counties where chances of success were greater.

The Game Commission, recognizing a great need to preserve turkey hunting in this old range, increased research and management efforts there. Farm-reared turkeys were released in greater numbers with varying success. Most of these releases failed to re-establish the birds as a perpetuating population.

Why turkey stocking failed in many of our southern counties and did so well in the northern areas can be answered by the differences between the two turkey ranges. The vast northern range turkey habitat was in a stage of improvement when the birds were stocked—that is the timber was maturing and turkey brood range in the form of forest openings (abandoned

farm fields, sawmill sites and beaver meadows) was abundant. These are two recognized essentials in turkey habitat. In this same period the southern habitat was becoming less hospitable, particularly in regard to brood range—with brush and forest canopy closing over many forest openings. Fortunately, this trend seems to be partially reversed in recent years, with the increased logging being carried on in the more mature forests of this area.

In a nutshell, it appears that the farm-reared birds do best in areas of optimum habitat. This must be true for our turkey range to have quadrupled in size. It also appears that farm-reared stock cannot cope successfully with less ideal conditions such as the southern range.

Many turkey states have successfully used the trap and transfer program to restock unoccupied range. Some states transfer two or three hundred birds a year. The Pennsylvania Game Commission decided to experiment with this method of stocking of a few wild-trapped birds in our southern counties to determine if this injection of high quality breeding stock would increase the low, static population. Trapping was to be conducted largely on areas closed to hunting, or in sections where a concentration of birds jeopardized the health of the flock. (We have authenticated instances where large concentrations were nearly eliminated by disease.)

If there is any game bird or animal more difficult to catch than the wild turkey, we'd like to know what it is. After a lot of dry runs, we finally learned the technique of catching them successfully.

Survival of these birds upon release has been excellent; and preliminary findings on our selected study areas show flocks existing and reproducing where none or very few have been found for years. If this initial attempt continues to prove successful, additional counties may be scheduled for treatment.

Now you have the story of how many turkeys are being trapped, where they are going and why. This is no harebrained scheme but a carefully laid plan by a Game Commission refusing to rest on the laurels of previous turkey restoration successes. Who can say what the future holds for the present high turkey population in our northern counties where disease or a couple of successively poor hatching seasons in a certain area could nearly put us out of the turkey business. For the present we are removing only a small portion of underharvested flocks, which otherwise would be doomed to that "Grim Game Reaper" called natural mortality, for stocking southern county study areas. In a sense these birds are returning to the home of their ancestors.





PGC Photos by Harrison & Wunz

FIRE . . . the cannons explode and the lead weights carry the net over the feeding turkeys. Here a Game Protector removes a trapped turkey from the cannon net during last winter's operations.

From Little Seeds . . .

WHEN it's a long, rough and drab winter in the mid-Atlantic States, the songbird feeders may be in their glory.

And Charles Sellin, a Warren, Pa., hatchery operator, could claim credit for bringing color and cheers into many snow-piled back yards. He has letters from all over the country to prove it.

Sellin's specialty is mixing grains, nutmeats and seeds and moulding suet cakes into convenience foods for birds. Placed on the rails of back porches and in and around ornamentals and bushes, the bird lures attract bright cardinals, devilish bluejays and some winter flocks of rare Canadian evening grosbeaks.

Nuthatches, downy woodpeckers, chickadees and even red polls come, too.

Each week Sellin must rush large quantities of wild bird seeds to retail outlets in Pennsylvania, New York, Ohio, Virginia, West Virginia, New Jersey and Michigan.

Sellin got mixed up in bird seeds about five years ago, simply by "doing some customers a favor."

For 15 years in East Warren he operated one of the state's largest chick hatcheries and specialized in providing nutritional grains for cattle and fowl on farms of Warren County.

But in late winters his customers seemed to ignore the batteries of noisy, newborn chicks and talked instead about songbirds and requested special mixes of grains and seeds "for the birds."

"A gang would get together in my store and discuss new birds," says Sellin. "It got so I couldn't get caught up with my work. Bird feeders are a very happy group of people and I decided to help."

Word got around that Sellin's mix brought birds into the back yards and soon Sellin was mixing batches of weed-free grains and even African sunflower in a cement mixer. A Cornell University wildlife specialist supplied a nutritional formula.

Sellin was on his way. He still sold chick and nutrition foods but the volume sale was in bird seed. His mix no longer went out the store in a nameless brown bag but was neatly packaged in clear plastic with an illustration showing a Cornplanter Indian scattering bird seed.

More romance which had a sales appeal came with the addition of a line of suet cakes called the "Princess Morning Glory." Warren legend has it that Princess Morning Glory was a little Indian girl who in the early 1800's lived on the Cornplanter reservation, a few miles from Kinzua.

She got up early every morning, so the story goes, and fed songbirds. A traveling Baptist preacher was so impressed with her way with birds that he named the little maid, "Princess Morning Glory."

Capitalizing further on the romantic history of the Warren area, Sellin has named one seed package the "Appleseed," after the legendary Johnny Appleseed who came to the site of Warren in December, 1797, and planted his first nursery on Big Broken Straw Creek, a few miles from Sellin's

Big Business Grows

By Steve Szakewicz



Photo by Steve Szakewicz

LONG WINTER DAYS become short cheery days when songbirds visit the feeders as attractive seeds await their hearty appetites.

farm at Sugar Grove, Warren County.

On this farm, Sellin, summer or winter, tests bird feeds and suet cakes. There are summer birds who appreciate a handout.

Some experiments are as hush-hush as Canaveral. He thinks he has a revolutionary "hot number" for next year's feeding stations. Beyond that he says no more for publication or for his competitors.

His store and cement mixer in Warren can no longer supply the demand of bird conservationists, and Sellin through his Cornplanter Industries now has his bird feed mixed and bagged in Buffalo, N. Y.

His enterprise has benefited unemployed toy-makers at Kane who now make bird houses and perches. A plastics manufacturer in Easton, Pa., provides bags. From a western Pennsylvania peanut processor, he buys peanuts and peanut hearts. A Pittsburgh meat packing house supplies the suet by truck loads.

One day Sellin hopes to gather up the loose ends and tie them up with a plant in Warren.

In the meantime, he gets letters of thanks from bird lovers who think his mix, which contains sunflower, canary seed, five millets, wheat, Fryburg buckwheat, milo, kafir corn, and an abundance of peanuts, works like magic.

He says his mail shows the heaviest winter bird feeding is being done at Corning, N. Y., and at Ann Arbor, Mich.

But one Michigan customer has him puzzled. He complained that Sellin skimped on peanuts in one bag.

The Warren man now wonders whether his Michigan customer is eating the peanuts or feeding them to the birds.



We Are Crippling Too Much Game!

By Jim Hayes

ON THE evening of the opening day of duck season we stopped to talk to a hunter on the bridge in the Conneaut marshes.

I'll never forget his answer when we asked him what luck he'd had.

"Two ducks in possession, two unrecovered, and I staggered a few others that didn't drop," he replied. "And I was using magnum loads, too!"

What holds true of duck hunting is true to a somewhat lesser degree of other types of hunting. But comparisons of degree seem futile when the subject is the needless waste of wildlife.

The truth of the matter is that we are crippling far too much game. Furthermore, if my own observations are typical, the trend seems to be toward more crippling and greater waste.

The use of retrievers and other hunting dogs can go a long way toward reversing this trend. But it isn't enough to talk up retrievers. The primary responsibility still rests with the gunner.

Where Is the Blame?

It is difficult to pin the blame for this situation on any single factor. Poor shooting, indifference, and laziness are probably contributing factors. But it is noticeable that the incidence of crippling and unrecovered game has increased hand-in-hand with the demand for more powerful shells and larger shot sizes.

Walk into any sporting goods store today and you will observe that at least half of the shotgun ammunition on display is the high powered stuff. The available shot sizes run from 6's to 2's. Demand for standard field loads in the smaller shot sizes, 7½'s and 8's, has declined to the point that many stores no longer stock them.

The basic problem is that hunters tend to evaluate their shooting ability, and the killing power of their guns, on the basis of the longest and most difficult shots they make. They remember vividly the occasional ringnecks and ducks they bust at 40 to 45 yards. But they overlook the fact that most of their upland game is bagged within 35 yards and most ducks at under 40 yards.

Emphasis on Long Range

Unmistakably, the emphasis today is on long-range shooting. When hunters miss shots they blame it on their shells. They insist on power and more power. Armed with express and magnum loads, they seem determined to find out how far a shotgun will kill game—not how well.

The less people know about shotguns the more they are inclined to think of them as anti-aircraft guns. Somewhere along the line we seem to have lost sight of the fact that the scattergun is a close-range weapon. It was never designed to kill game at a distance of half the length of a football field.

Many hunters favor high-powered loads and larger shot sizes in the belief that this combination makes for deeper shot penetration. That is true enough. Larger shot does hold its velocity better and give deeper penetration than small shot.

Actually, this deep penetration theory runs contrary to the basic principle of the shotgun. With a shotgun, effective killing depends far more on target *saturation* than on penetration.

Few Pellets Penetrate

In skinning out your game—rabbits, squirrels, grouse, and pheasants—you will observe that few shot pellets penetrate deeply into the flesh. Most pellets merely penetrate the fur or feathers and the outer skin. The kill is produced by the cumulative effect of a series of body hemorrhages between the outer skin and the inner flesh.

If the shot has penetrated more than a quarter inch into the flesh you probably shot the bird or animal at very close range, hit it with a dense pattern, and blew it apart pretty badly.

Tests have demonstrated that it requires hits by at least five pellets of No. 4 shot to secure a certain kill of a mallard duck. The more pellets you are throwing, provided they retain minimum penetration velocity, the greater your chance for a clean kill.

Most game is killed at ranges within 35 yards. At 30 yards you can put *twice as many* 7½'s into your target as you can with No. 4's. Moreover, at ranges beyond 35 yards, there is less temptation to blaze away with a standard field load of 7½'s. You are always conscious of the shell's limitations. Even if you do shoot you are less likely to produce a crippling wound.

Firing Too Far

Most crippling is done when hunters are firing at and beyond the extreme limits of their gun's range. With high-



PGC Photo by Delbert Batcheler

TOO FAR for any shotgun shell to reach, but these waterfowl hunters still blast away in the hopes of at least hitting one. This can cause cripples.

powered loads you may fold an occasional bird at 45 yards, and with magnum loads you may even splash a few ducks at 50 to 60 yards. But you will stagger and maim much more game than you stop cold.

It would certainly be helpful if hunters, before they go afield, would take the time to pace off 40 yards and get some idea of the distance. That would eliminate a lot of the 60- to 70-yard shooting you see in the duck country.

2's No Good for Ducks

At 60 yards a full-choke 12-gauge firing an express load of No. 2's can be expected to put not more than two shot pellets into a bird the size of a mallard duck. Unless through sheer luck you hit a vital area, that is simply not enough to do the job.

It is true that magnum loads have been developed that increase the killing range of the 12-gauge by 10 or 15 yards. Those loads are designed to throw a tight, dense pattern and put more pellets into the 'way-out birds. Unfortunately, they have one great weakness.

Most Powerful for Geese

The most potent shotgun shell available today is the 3-inch magnum load. Designed primarily for geese, this shell contains 1⅞ ounces of shot backed up by 4½ drams of powder. Shot in a full-choke 12-gauge gun, it has the pattern density, and the No. 2's retain sufficient velocity to fold a duck or a goose at 60 yards provided the bird is caught in the center of the pattern.

Let's see how that works out as a practical matter. We will say that a mallard duck is barreling past broadside, 60 yards out, at a flight speed of 90 feet per second. To hit him you must aim at least 10 to 15 feet ahead of him and allow for at least a foot of drop. The range, lead, and elevation

must be calculated in split-seconds.

Remember now, you must hit that bird squarely in the center of the pattern. There may be hunters around who are skillful enough to consistently kill ducks and geese under those conditions. But I have yet to meet any of them!

After years of experimenting with various shot sizes and loads I find that the standard field loads in the smaller shot sizes, fired from an improved cylinder choke 12- or 16-gauge gun, and used within the ranges for which they are designed, produce more kills and cleaner kills than any other shell on the market.

Use 7½'s for Ducks

On the opening day of duck season I scored two successive kills using standard 7½'s. My firing was done at ranges within 35 yards. And both of my birds were dead when they hit the water. My companions, using high-powered loads in sizes 2 and 4, found that they were throwing patterns too tight to hit the close-in birds. Most of their shooting was at ranges beyond 35 yards. And they all had crippled or unrecovered birds.

These standard 7½'s are equally effective—and again when used at ranges within 35 yards—on rabbits, grouse, and pheasants. In fact you will be amazed at the devastating wallop these 400 pellets of fine shot pack at average shooting distances.

No. 5's for Squirrels

If I am after squirrels, which are tougher to kill, or if the ringnecks are flushing wild, requiring shots of 30 to 35 yards, I go to modified choke and No. 5 and 6 shot sizes. But I am through throwing away shotgun shells at flesh and blood targets at ranges of 45 to 60 yards.

Considering the hazards a duck, grouse, or cottontail must face just to survive to the opening day of hunting season, their very existence seems almost miraculous. As hunters, we have a responsibility to either kill clean or not kill at all. The standard load in the smaller shot sizes is the restraining influence needed to bypass those long, uncertain, crippling shots.



A Good Way to Start
A Boy on the Right Foot . . .

Shooting— Inside and Outside

By Bill Walsh

SON Jeff and I lay motionless at the brow of the hill, knowing the woodchuck could probably see our outline against the sky. The 'chuck sat as erect as a judge on the bench, looking directly at us, as Jeff lined up the cross-hairs of his 6-power and got ready to squeeze off on the first 'chuck target of his young life. But as all hunters know—there's many a slip . . . .

Apparent mistaking Jeff's bright red (fluorescent) cap for some new kind of giant meadow flower, a bumblebee made a buzzing pass alongside the youngster's ear. Jeff couldn't resist the urge to swat at it—and the woodchuck headed hurriedly for his hole, his hide rippling in that characteristic "liquid" motion a 'chuck's hide goes through when he's high-tailing it for cover. He made it, too—since we don't shoot at the running variety in our family.

"Dang it, Dad!" Jeff exploded, looking at me in boyish disgust. "We almost had that one."

I guess he thought I was crazy for grinning but I couldn't help it. I wasn't displeased. It was as important for him to learn firsthand about the fortunes of hunting as much as the fun of making a clean hit. He was only 12 then and had plenty of time.

LEARNING FIRSTHAND the fortunes of hunting as well as the fun of hunting was important to Jeff. Mr. Ground Hog was a good teacher.

Photo by Hal H. Harrison



"Well," I told him, "that taught you one thing anyway—that motion and not the color of your 'chuck hunting clothes is what will scare the woodchucks. We're both wearing screaming red caps and he just sat there and looked at us until you waved at him."

He Had Lots to Learn

Of course while all this discussion was going on we lay in exactly the same spot at which the story opened. Jeff had started to scramble to his feet after the 'chuck made that running dive into his parlor, but I had placed a restraining hand on his shoulder. He had a lot to learn about the wisdom and stupidity of woodchucks and I was determined that he absorb as much as possible on this first time out.

"Let's not move away for just a little while," I pleaded against his boyish impulse to dash off through the fields in search of another furred target.

"Will he come up again—after being scared?" Jeff asked.

"Might," I motioned for silence—trying to look wise. The smell of the clover was good in my nostrils and the warmth of the earth soothed older muscles that had spent part of the day cultivating back-yard tomatoes and the rest of the day hunched at a typewriter. Stretching, belly-down, on Mother Earth helps heal such aches.

Two Grew Restless

Sure enough—while I lazed contentedly in the sun, two nearby creatures grew more restless by the minute. The first was Jeff, who fidgeted and fussed, but I had some control over him and kept him reasonably still. The other was the woodchuck. He hadn't really been shot at. He hadn't had his home tromped over. He couldn't hear anything. In fact, to him the suspense was almost as unbearable as it was to Jeff. And there was no one to restrain him.

He eased himself up out of that hole an inch at a time. Then with that quick upright motion he stood there so straight "at attention" you'd have thought the flag of Woodchuckland was passing by.

My money was on the boy as he lined up this second time. The range was good but only a head shot would count. Almost simultaneously with the crack of the rifle I heard that characteristic "thwomp!" that comes with a direct hit. This 'chuck was as important to him as a 10-point buck to an older hunter, so just as we fellows do in deer camp following a successful shot, I shook his hand and said, "Congratulations."

In the smile on his face I saw another hunter walking the woods and the fields of the future. I saw another convert—and I was glad.

Years for This Moment

Glad—but not surprised. I'd been working up to it for years. It all started in a place just about as far as you can get from a meadow dotted with 'chuck holes—in our basement. The ingredients were easy to come by: a boy, which we had; and a gun and a bullet trap which we bought.

I started him shooting when he was six—at pictures of rabbits drawn on heavy paper and stretched across the face of the bullet trap. We let him shoot with plain old iron sights the first few years—then one Christmas added a scope. For shooting games we improvised a lot. One of our tricks was to stretch a piece of old fly-line vertically across the face of the trap to see who could sever it first. Time was when it took him a number of shots to do it and the Old Man tried not to be too accurate. Today, while bearing down, I find it difficult to snap the string before he does.

Cellar shooting is extremely safe if ordinary range rules are followed — 1. No one EVER in front of the gun. 2. Bolts open when inspecting targets. 3. Safe on until ready to fire. 4. Ammo and guns locked in separate places when not in use. 5. All spectators well behind the firing line.



Photo by Bill Walsh

IN HIS OWN HOME Jeff lines up on a bullet trap in the basement. We used an old kitchen table as a rest for teaching purposes but we also shoot off hand.

When we started, the house we lived in then only afforded us a 28-foot shooting range. It was long enough. Today we have a full 50-footer and the Missus of the house seems to think we deliberately planned the basement that way. Now who ever heard of such a thing?

Indoor Games

Basement shooting games are endless in variety. By dividing a sheet of paper into squares and placing letters in each square, a youngster can spell out his name with direct hits on the proper letters. Pictures of game animals and varmints can be drawn and attention focused on putting the bullet where it should go to make a vital hit. A deer drawn on paper 50 feet away stimulates to some degree the same kind of shooting skill it takes to drop one 100 yards away in the woods.

And valuable habits can be formed. Like never putting the finger inside the trigger guard until ready to fire.

Of course with a bullet trap in your basement you are wide open for another kind of fun when neighbor dads and sons drop in to "take you on" in a shooting match. We've had dozens of father-son combinations in our cellar over the years—and came across a few we couldn't top, too. If it's true that everyone likes to be popular, this is one sure way to gain that kind of popularity.

But let's get back to that first real live woodchuck. There were still some lessons to be taught after it was anchored. It puzzled Jeff for a moment, for example, when I asked:

"All right—now what are YOU going to do with it?"

"What do you mean. DO with it?" he scratched his head. "Don't we just leave it here?"

"To smell up the field?" I said with mock sternness. "We certainly do not. We never kill anything we don't have a use for. Now what use do you have for that woodchuck?"

He had no answer and I could see I was taking the fun out of it for him so I came to his rescue.

"Well, it just happens that Uncle Tad's fox hounds will know how to care for your 'chuck and Uncle Tad will be glad for the fresh meat at no expense to him."

"Whew," he said, "I was afraid I was going to have to take it home and cook it."

You Bet We Cook It

Whereupon I politely informed him that when we were next fortunate enough to bag a young one of the right size we'd be doing just that—now that his hunting was in earnest. It had been some years since I had skinned out a 'chuck for the table but it was part of a hunting education a young fellow shouldn't miss and I'd make sure that Jeff got it as well as the lessons in marksmanship.

That about winds up the yarn. We know it's not as thrilling or blood curdling as a story about a lion charging an African hunting party or as exciting as the harvesting of a 12-point buck in Penn's Woods. But it was "first blood" to Jeff and the first step in what we hope will be a long and enjoyable series of hunting experiences together. We thought that telling about it might serve to stimulate other dads in preparing for the same kind of first day with their sons (or daughters) as well as give them a bit of an inside picture on some of the steps that can be taken—so you'll not be surprised when you ask that youngster what he wants for his 12th birthday and he answers:

"A hunting license!"

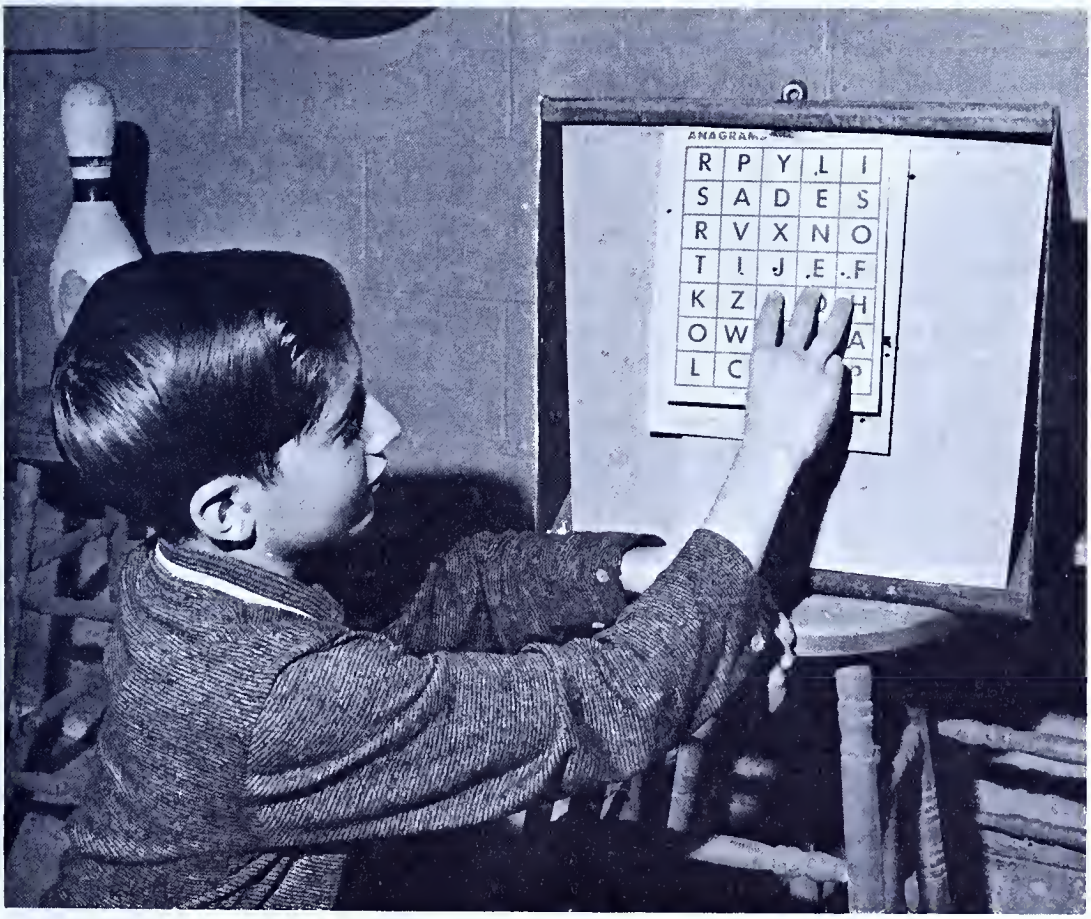


Photo by Bill Walsh

JEFF SPELLS HIS NAME with bullet holes in this target-type game of anagrams. It's also fun to shoot at pictures of game animals—hand-drawn or torn from the pages of sporting magazine.

Special Release of New Facts . . .

The Ring-necked Pheasant Study in Pennsylvania

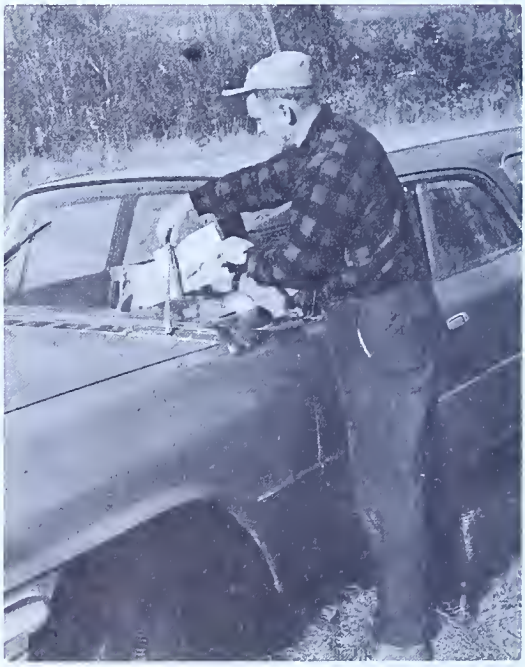
By Ken Gardner and Fred Hartman
Game Biologists

Progress Report No. 1

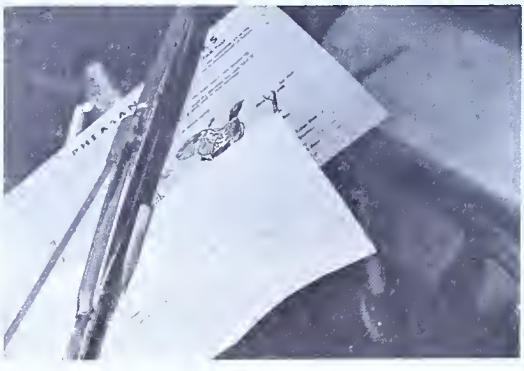
THE Pennsylvania Game Commission's Ring-necked Pheasant Study is rolling along in high gear, thanks to the excellent cooperation obtained from many landowners and sportsmen in York and Lebanon Counties during the 1961 small game season.

The Pheasant Study was initiated by the Game Commission's Division of Research in July, 1961. The objectives of the study are: To determine the quality, size and classification of the pheasant ranges in Pennsylvania as they occur at the present time; to select areas in the various range classifications where intensive pheasant population studies can be conducted; to investigate the factors that control pheasant numbers in different range classifications; and to conduct hunter bag check surveys, to obtain information concerning the effects various degrees of hunting pressure have upon pheasants.

Three study areas were selected on Cooperative Farm-Game Projects in southeastern Pennsylvania. One of the study areas was located in Lebanon County and two were in York County. The selection of the study area sites was based on their ability to fufill the following qualifications. First, these areas had to be typically agricultural areas with representative topography and land-use of southeastern Pennsylvania. Second, each study area had to be located in an area that was open



FIELD SURVEYS were made in the pheasant study areas. Here Game Biologist Ken Gardner places questionnaire and envelope on a pheasant hunter's car. Even a pencil and tack were provided to make it easy.



to public hunting—thus the Cooperative Farm-Game Projects. Third, each study area had to have a sufficient size to allow for a buffer zone around the actual area so that any movements of pheasants would have a minimum effect on the study area.

In order to obtain the maximum information about pheasants in the two counties, an effort was made to acquaint landowners and sportsmen with the objectives of the study and the need for the cooperation of all hunters. Commission personnel attended sportsmen meetings in the two counties and explained the immediate and long-range plans for the study. News releases were given to local papers in York and Lebanon Counties reminding hunters of the study and the need for their assistance.

Simultaneously, field observations were being made of sex ratios in the pheasant populations prior to the small game season.

In York County, an effort was made to band as many as possible of the pheasants that were raised by sportsmen's groups and others before they were released. Nearly 2,100 male and female pheasants were banded in this program. Special emphasis was placed on getting hunters to be on the alert for bands which they might recover during the open season.

Special envelopes were distributed to sportsmen in both counties by biologists, Game Protectors and Deputy Game Protectors. These envelopes were to be used by successful pheasant hunters to send wings and legs from pheasants bagged in York and Lebanon Counties to the Division of Research. The wings and legs were to be used to determine the ages of the pheasants by biologists working on the pheasant study. A brief questionnaire printed on the envelope asked the hunter the date and location where each bird was bagged. The number of hunters in his party and whether or not dogs were used were also asked. These envelopes were postpaid and addressed to the Division of Research, Pennsylvania Game Commission, Harrisburg, Pa.

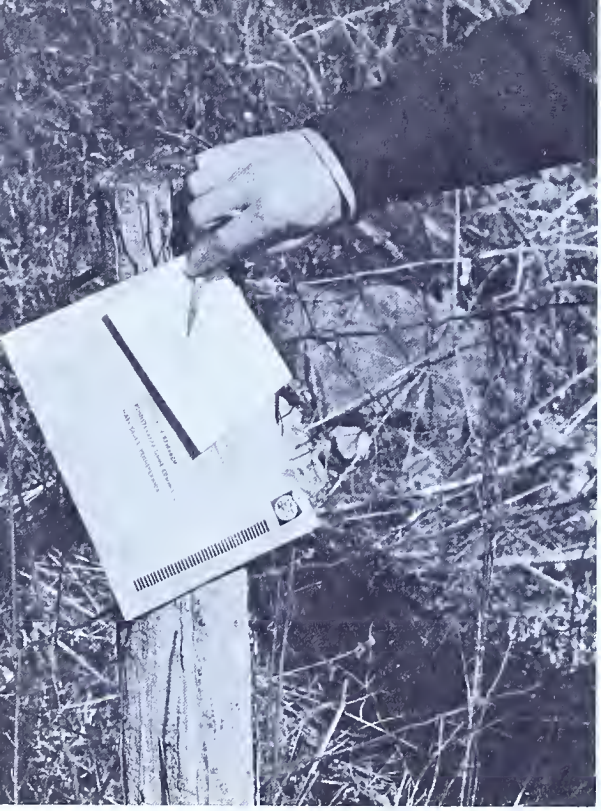


SPECIAL QUESTIONNAIRES asked the hunter where they came from, how many hunters in each party, the number of hours spent afield, game bagged, crippled, lost and if dogs were used.

Approximately 3,800 envelopes were distributed to sportsmen in the two counties. Slightly over 600 envelopes containing wings and legs were received at mid-December. While the majority contained only one set of wings and legs, many had two, three and some had more sets of wings and legs with the individual sets fastened together and the pertinent data attached.

WINGS AND LEGS were then requested along with the questionnaire to be placed in the envelope.





COMPLETED FORMS and filled envelopes are left by the hunter in the field for pick up later by a Game Biologist.

A preliminary examination of the wings and legs received from hunters verified the fact that the vast majority of male pheasants bagged during the hunting season are young of the year. Some evidence of late nesting was indicated by the fact that a number of the wings examined were molting or replacing the outer primary feathers at the time of harvest, proving they were youngsters.

A complete report of the information obtained from all the wings and legs submitted by hunters will be presented in the GAME NEWS upon the completion of an analysis of all the data.

A special questionnaire was used to canvass hunters using the study areas in both York and Lebanon Counties. These questionnaires were designed to gather more complete information about the hunters using the areas. Where they came from, how many hunters in each party, the number of hours spent afield, the number of pheasants and other game species bagged, and the number of cripples lost, and whether or not dogs were used were some of the questions asked.

Placed in Field

Project personnel cruised the roads through the study areas and placed these questionnaires, envelopes and pencils under the windshield wiper of all automobiles parked on the study areas. Continuous cruising enabled each man to cover his assigned area several times each day thus providing excellent contact with hunters.

A pencil with a thumbtack attached was provided for the hunter to complete the questionnaire and pin it to a nearby tree, fence post or utility pole to be picked up by project personnel later.

A total of 1,042 questionnaires were placed on hunters' cars in the three study areas. Six hundred eighty-four questionnaires were returned. Of this total, 578 contained usable information. The remainder were not filled out by the hunters. Apparently some hunters did not complete the questionnaire due to a lack of understanding of its intended use. Others simply could not take the time to answer the few questions. Still others took the questionnaire along with them and may have pinned them to trees off the study area where they could not be recovered.

The recovered usable questionnaires indicated that 1,467 hunters spent 4,436 hours while bagging 578 pheasants. Another 106 pheasants were reported crippled and lost. This represents a reported 18 per cent crippling loss on the study areas.

80% by Second Saturday

As might be expected, the largest number of pheasants were harvested the first day of the small game season. And by the end of the second Saturday over 80 per cent of the season's kill had been reported.

Another interesting aspect of the hunting season was (except on the first day) that hunting parties using

dogs accounted for about five per cent more game than did parties that did not have dogs. At the same time about 8 per cent less game was lost as cripples by parties using dogs.

Other game harvested on the study areas and reported incidentally on the pheasant questionnaires included 353 rabbits, 76 squirrels and 20 bobwhite quail.

Provide Sound Basis

The data obtained during the 1961 small game season will be subsequently subjected to further analysis. This information will serve to provide a sound basis for future findings on the established study areas.

Immediately following the 1961 small game season, a random sample of the licensed hunters in York and Lebanon Counties will be asked to participate in a program designed to determine where they hunted, how long they spent afield hunting small game, how many pheasants they bagged, etc.

Questionnaires will be mailed to selected hunters who will be asked to complete the questionnaire and return it to the Game Commission. This survey is designed to supply information which is needed by the Game Commission in order to continue its game management programs in the best possible manner for the sportsmen of the commonwealth.

Biologists will trap and band pheasants on the study areas in order to gather data on the number and sex ratio of post-hunting season pheasant populations.

During the spring, pheasants will be censused. A study of nesting, including the number and location of nests, the number of eggs per nest and nesting success, will be made.

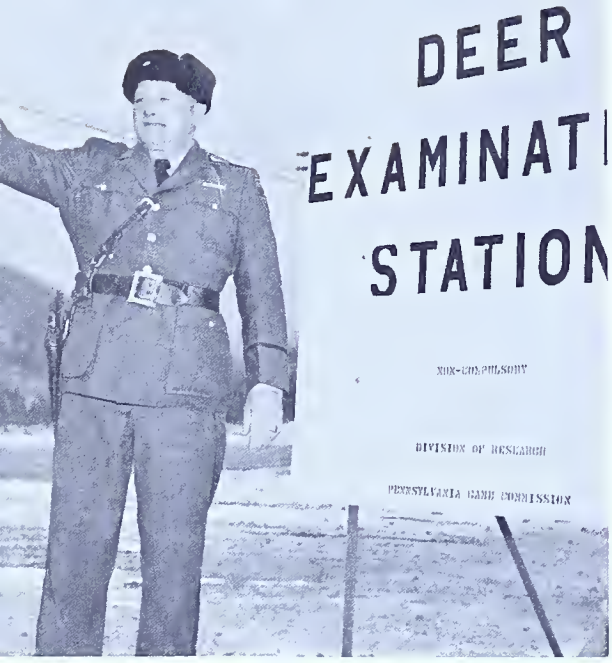
Brood Study

Throughout the summer, broods will be studied to determine what factors contribute to the success or failure of broods to reach maturity and live to the next hunting season.

Come next hunting season, many of the sportsmen of Pennsylvania will again be asked to participate in this fact-finding mission. By taking a few minutes to answer a few simple questions they will help the Game Commission to help themselves enjoy future successful ring-necked pheasant hunting seasons in Pennsylvania.

PICK UP OCCURS sometime later when Game Biologists get back to the area. Here Ken Gardner finds a full envelope left by a successful and cooperative hunter.





PLEASE STOP says Bob Parlaman, Conservation Information Assistant in the Game Commission's Northwest Division. Parlaman helped the Game Biologists at their non-compulsory check station.



NICE BUCK killed by William Cowell, of Belle Vernon in Warren County, was checked at the station. It weighed 144 pounds and had 10 points.

First Deer C
Termec

PGC Photos



DEER AGING is accomplished by observing t Biologists Lincoln Lang and Steve Liscinsky re

The success of the Pennsylvania Game Commission's first voluntary deer checking station was shown by the fact that nearly 600 animals were submitted for examination during the first week of the season. At the station, located three-quarters of a mile north of Franklin on Route 8, Game Biologists checked the age, weight, antler development and general physical condition of each animal. This information, which reflects both the health of the herd and the condition of the range, is of vital importance to the Commission's deer management program.

Due to the wide publicity given this endeavor by the press, radio and TV stations, approximately 2,000 interested sportsmen visited the station to watch the operation. In addition to seeing how the age of deer is determined by tooth wear and replacement, hunters discussed all aspects of deer management with the biologists on duty. For many sportsmen this was an excellent opportunity to get firsthand answers to their questions concerning deer nutrition, reproduction and the effects of hunting antlerless deer on future game harvests.

Of the 600 deer examined during the six-day period, 193 were killed in Venango County, 150 in Forest County and 100 in Warren County. In all, 11 counties in the northwestern part of the state were represented.

The busiest single day at the sta-



HOW HEAVY IS HE wonders Bernard Hillabrand, of Toledo, Ohio, as Biologists Wilmer Richter and Steve Liscinsky determine the official weight.

;ing Station Success

nd Harrison



l determining replacement and wear. Here Game e of this 1½-year-old spike buck.

tion occurred on December 5 when Commission personnel checked 175 animals.

Seventy-eight per cent of the bucks were classified as being 1½ years old. A further age breakdown revealed 16 per cent were 2½ years, 5 per cent 3½ years and less than 2 per cent could be put in the 4½ years or older category. The oldest specimen, a 5½-year-old buck, was taken in Warren County.



AGING BOARD showing sample jawbones of various age deer helps the hunter understand how to determine how old his deer really is. Game Biologist Stanley Forbes explains the method to Bernard Hillabrand, of Toledo, Ohio.

Bucks do not reach full physical maturity or maximum antler development until they are 5½ years of age. In view of the fact that a large portion of the sample was made up of young animals, it is not surprising that the number of "trophy" racks was comparatively small. Males with spikes constituted 28 per cent of the sample, 3 points 14 per cent, 4 points 20 per cent and 5 points 8 per cent. A buck, killed in Venango County sporting a 13-point rack, took top honors for antler development.

While the heaviest buck weighed 166 pounds, field dressed, 40 per cent of the animals failed to make the 100-pound class. Most of the deer, however, fell into the 101-110-pound category.

An albino and two bucks with antlers still in velvet added variety to the routine at the checking station.

Tremendous public interest in this initial deer checking station may encourage game officials to expand this operation to other areas of the commonwealth in subsequent years.

FIELD NOTES



Off Course

JEFFERSON COUNTY — On the night of November 5, the City of Punxsutawney was invaded by wild geese. Perhaps this is not too uncommon to some towns but it was to Punxsy since we are not on their direct flyway. It was a rainy, foggy night and apparently the lights shining on the wet pavement looked to them like water. While not too many actually landed, there were hundreds — some said thousands — flying at roof top level. I had the assistance of the fish warden, state and boro police in attempting to get them away from town or safeguard them. Eventually the fire chief assisted us. The fire truck was called out to the country club and focused their lights on a pond of water. They would fly low but refused to land. About daybreak the fog lifted. They got their bearings and took off to complete their southern trip.—District Game Protector Robert F. Ellenberger, Punxsutawney.

Downright Disgusted

LUZERNE COUNTY — This experience was told to me by Gordon Knorr, of Mountain Top, Pa. He and his friend, Pete, of Kingston, Pa., made a hunting trip to Mr. Knorr's grandmother's farm in Hollenback Township, near Hobbie in Luzerne County. It had started to drizzle when the two hunters decided to quit for the day, when Gordon's hound, about ten years old at the time, kicked out a rabbit. Pete was about 35 or 40 yards from Mr. Knorr who could see all of the action. The rabbit ran ahead of the dog toward Pete, who promptly shot and missed him three times. Once more the dog drove the rabbit around and right into Pete. He fired once and missed. At this point the rabbit ran between Pete's legs and he missed him two more shots while he was going away from him. The hound still pursued and for the third time drove the rabbit directly toward Pete. He fired three more shots and missed again. At this point the dog, evidently becoming disgusted, sat down on his haunches and refused to take any further interest in the rabbit and looked up at Pete thinking three cracks at a rabbit is enough for any hunter.—District Game Protector Edward R. Gdosky, Dallas.

Bushels of Crows

ALLEGHENY COUNTY — While on patrol in the Clinton area with Deputy McGinnis on November 23, we observed large flocks of crows. We estimated 3,000 crows in this particular area. This should be good news for the crow hunters in this area. — Acting Game Protector James W. Way, Coraopolis.

Deer Are Indeed Tough

BUTLER COUNTY — One night during early November a motorist called about striking a deer on the highway near Slippery Rock; he also stated the deer got up and traveled to a nearby field where it fell down again. It was quite some time later that he came to my residence to show me exactly where he last saw the deer. We both checked the area for about an hour and gave up as we could not track the deer any longer. Several days later a small game hunter called me about a deer dragging its hind quarters and could not get up. I took the deer out and skinned it because I was not sure whether the deer had been shot or hit by a vehicle and I am certain it was the same deer I was looking for several days previous. It was approximately one and a half miles from the accident scene. It was amazing the distance the deer traveled after being injured so badly.—Land Manager W. E. Portzline, Slippery Rock.

Deer Causes Capture of Thief

MONROE COUNTY — During November Henry Witold Groncki, Vantage Avenue, Branchville, N. J., stole a 1959—98 Oldsmobile car from a garage in Pine Island, N. Y. While traveling on Route 191 in Barrett Township, Monroe County, he killed a deer with the vehicle. Harold Smith came along and offered to help the motorist. The headlights of the car were damaged. Groncki told Smith this was a stolen car, so Smith notified Harry Campbell, Barrett Township Police, and Groncki was committed to the county jail. He was then charged with first degree grand larceny by New York police authorities and extradited to New York state. The deer was turned over to Game Protector Spencer for disposition. — District Game Protector John Spencer, Mount Pocono.

She Should Have Stayed Home

TIOGA COUNTY — It was just a bad day for Mrs. Atwell while hunting with her husband, Deputy Merle Atwell, one day last month. While trying to shoot a grouse she found she was trying to load the 410 with a clothes pin. It didn't work. To make things worse, her slacks ripped in the back seam, clear down, and it was a cold day. By removing her sweater and tying it around her waist she overcame the cold air.—District Game Protector W. D. Denton, Elkland.

They Got the Point

SUSQUEHANNA COUNTY — Just about every species of wild animal and almost all raccoon dogs have at one time or another experienced a painful encounter with porcupines in my district. We even know of a horse and pig turning up with quills in their noses. But a herd of Holsteins belonging to Israel Landis, of Locust Hill, was the latest to learn that porcupines should always be avoided. His cattle found a porcupine in the pasture and being inquisitive, as cows will be, surrounded the quill pig and investigated this strange creature with their noses. Nine came away bearing quills. The least fortunate had 42 quills protruding from the nose and 21 in a leg. — District Game Protector Donald G. Day, Susquehanna.



Shook Up

POTTER COUNTY—A down-state bear hunter came to my headquarters the evening of November 29, 1961, with somewhat of a problem. He had traveled some 200 miles and finally, after arriving at his destination in Coudersport, and after inspecting his hunting clothing and gear to be used in the next day's hunt, discovered he had left his hunting license at home. After being advised concerning his predicament, and after a long distance phone call telling his brother to bring the license to him, the man decided to call it a day and returned to the motel where he had registered. Early the next morning I received a phone call from the same man and he, somewhat perplexed, said, "I not only forgot my hunting license, but I also left my gun at home." To top this off, his brother had left his home and was en route to Coudersport with the license but not the gun. The man went on to say, "If I was that excited just thinking about it, what would I have done If I had seen a bear?"—District Game Protector H. Richard Curfman, Coudersport.

Expensive Apple

NORTHUMBERLAND COUNTY — Ben Yorwarth, prominent Shamokin druggist and ardent hunter, had an interesting hunting experience. In company with Reverend Dr. Lukens, of Shamokin, he went turkey hunting in Union County near Weikert. He drove a Jeep and parked the vehicle on a woods road. Upon returning from the hunt the men found the Jeep had been attacked by a bear. The rear canvas had been ripped and the right door canvas ripped and the rod bent. What was the bear after? Mr. Yorwarth said the only thing in the Jeep that would attract a bear was an apple. The question is, was the apple worth $50 (the cost of the Jeep repairs) to the bear? — District Game Protector Clyde E. Laubach, Elysburg.

Triple Hit

COLUMBIA COUNTY—A Columbia County hunter related this story to me. "He shot a cock pheasant on the ground in a hedgerow and when he went to pick up the bird he discovered that he had also killed a grouse and crippled another grouse. He had only observed the cock pheasant when he shot.—District Game Protector Harold F. Harter, Bloomsburg.

Some Story!

BERKS COUNTY—One hunter, arrested for shooting across a highway and into a radiator of a passing truck, had a novel alibi. This hunter claimed that the truck was traveling too fast; if it had been traveling slower it would not have been hit. — District Game Protector Joseph A. Leiendecker, Reading.

Safety for Dogs, Too

BUTLER COUNTY—I feel that the Hunter Safety training courses which we are conducting in Butler County are paying dividends. While on patrol the first day of small game season, accompanied by Deputies Carl Waldenmyer and Leonard Green, we witnessed the following sight: There was a small mixed breed type of dog tied in a front yard. Sure enough, it had on a very bright red hunting vest. We went so far as to back the car in order to be certain of the sight we saw. All three of us remarked that at least people are thinking "safety."—District Game Protector Jay Swigart, Butler.





Saved by the Bell

SOMERSET COUNTY — While on patrol in Elk Lick Township, Somerset County, on the second day of the general hunting season, Deputy Davis saw an auto parked along a dirt road at ten minutes after 5 o'clock p.m. Deputy Davis decided to wait for the hunter to come out of the woods. A minute or two later the hunter was seen walking across an open field approaching his car. Davis identified himself and asked to check the man's license and gun which was not loaded. While doing so, Davis heard a loud ticking sound and asked the hunter what it was, Davis being afraid that it might be a time bomb. The hunter pulled out from a waist pocket a large Big Ben alarm clock which was set to ring at 5:00 p.m. The hunter stated that he did not want to hunt overtime.—District Game Protector Robert H. Muir, Meyersdale.

Believe It or Not

LEHIGH COUNTY — During the early part of the second week of the small game season, I was getting a haircut in the Fogelsville barbershop. One of the barbers asked one of the customers how he had made out hunting so far this season. The man replied, "I've only gotten six ringnecks so far. I can't understand where all the game is."—District Game Protector Edward F. Bond, Allentown.

A True Sportsman

PERRY COUNTY—On the opening day of the small game season Charles Markle and his grandson, of Liverpool, R. D., started the day in true sportsman manner. Mr. Markle had seen some pheasants in a tree ten minutes before opening time. Instead of waiting until starting time and getting the birds, Mr. Markle went in and flushed the pheasants to scatter them. When the opening hour came Mr. Markle remarked to his grandson "Now we will really have some fun hunting them." — District Game Protector Jacob Sitlinger, Newport.

Farfetched

PERRY COUNTY — After being involved in many investigations of illegal deer killing in Perry County in the last three years I wasn't quite prepared for the statement made to Game Protector Sitlinger and myself by one of four defendants involved in a deer killing. A deer had been shot by one of the four men in Liverpool Township of Perry County with a shotgun and a load of shot. When asked why he had shot it with a shotgun the reply was, "I shot the deer in the head in mistake for a squirrel." Needless to say that story wasn't quite swallowed. — District Game Protector James Moyle, Blain.

Window Shopping

WESTMORELAND COUNTY — Between 6:00 p.m. on November 6, 1961, and 6:00 p.m. on November 7, 1961, my deputies and I picked up off the roads eleven deer. Of these eleven deer five were bucks and four of these five were 8 points. The other was a six point. One of these eight points went into an appliance store through a large plate glass window. He did about $800 worth of damage and came out through another window only to be hit by a car. That store is located on Route 66 about 3 miles west of Apollo. — District Game Protector Philip L. Young, Apollo.



Bear Fever

TIOGA COUNTY — A bear hunter told me an almost unbelievable story of bad luck that happened to him on the first day of the season.

Shortly after the season opened he saw an enormous bear coming straight at him. The hunter started to fumble for the safety and couldn't seem to find it. The bear came to about thirty feet from the hunter and then walked behind a log. The hunter had the safety off by this time but couldn't get a good shot at the bear. When the bear came from behind the log the hunter was so close to the bear that he couldn't find the bear in the scope. The bear ambled off into the brush and the bear hunter never fired a shot. I believe this may have been a slight case of "bear fever" involved in this case.—District Game Protector Keith Hinman, Wellsboro.

Woodchuck Protector

GREENE COUNTY — On November 7, 1961, while on patrol in Wayne Township, I saw a woodchuck crossing the road. I stopped within 10 feet of this animal sitting on the bank. Wondering if the animal was going to run to the culvert nearby as all others have done, to my amazement he ran under my car and stayed there. I wonder if he knew my car as all others seem to and was hoping for some protection?—District Game Protector Leslie V. Haines, Waynesburg.

Northern Visitors

COLUMBIA COUNTY — On November 22, 1961, I saw about 25 crossbills feeding on tartarian honeysuckle and autumn olive hedges on State Game Lands No. 58.—District Game Protector Lewis H. Estep, Berwick.

White Mink

LUZERNE COUNTY — In recent years local trappers have been given the rare treat of seeing and catching albino mink. For the second year in succession a "white mink" has been trapped in the Bear Creek vicinity.—District Game Protector Howard W. Bower, Jr., Wilkes-Barre.

Pest

UNION COUNTY — Jake Barnett, who lives near Weikert, has about given up in his efforts to eliminate a red squirrel who has invaded his home. Each time Reddy gnaws a hole in the house, Jake covers it with tin. To date three holes. He got into the cellar and began eating potatoes. The potatoes were covered and Reddy promptly chewed a hole in the basket. At night he bowls in the attic using walnuts from Jake's tree. Three different types of traps have been set and baited; he ignores them. Several shots from a .22 rifle have been fired at Reddy but he still keeps gnawing and bowling. — District Game Protector John S. Shuler, Lewisburg.



CONSERVATION NEWS



HUNTER SAFETY DEMONSTRATION was conducted by Pennsylvania Game Protector Joseph Wiker, of Pine Grove Mills, at first session of the Pennsylvania Conservation Education Laboratory for Teachers. Dr. E. S. Fowler, Director of the course, watches Wiker demonstrate proper gun handling as the teachers observe.

Program Announced for 27th Wildlife Conference

Outdoor recreation will be the principal topic for consideration at the general sessions of the 27th North American Wildlife and Natural Resources Conference, scheduled for the Hilton Hotel, Denver, Colo., March 12-14, according to the Wildlife Management Institute, sponsor of the large international meetings.

"New Horizons for Outdoor Recreation" is the overall conference theme. The program for the three-day meeting consists of two general sessions at which broad policy questions will be discussed and six technical sessions where last-minute research findings and management techniques will be aired.

"Strength Through Recreation" is the theme of the opening general session on Monday morning, March 12. Session Chairman Quigg Newton, president, University of Colorado, will be assisted by Joseph W. Penfold, conservation director, Izaak Walton League of America.

Seth Gordon, vice president, North American Wildlife Foundation and past Executive Director of the Pennsylvania Game Commission, will be the conference summarizer. In addition to its formal sessions, the 27th North American Wildlife and Natural Resources Conference will be the meeting place for representatives of most of the nation's influential conservation organizations as well as for staff members from agencies concerned with natural resources management. All presentations at the conference sessions, plus the floor discussions, will be recorded and published in the printed Transactions. Further information about the meeting may be obtained from the Wildlife Management Institute, at 709 Wire Building, Washington 5, D. C.

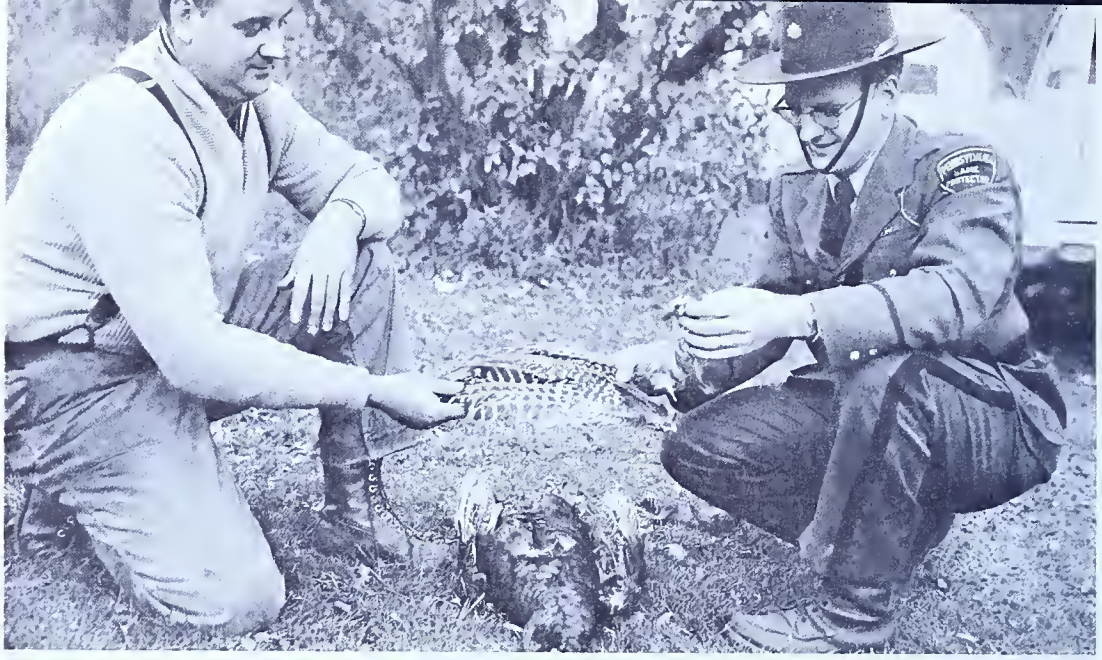


Photo by Steve Szakewicz

COOPERATING SPORTSMAN Glenn Artman, of North Apollo, donates his turkey wings and feet to District Game Protector Cecil Toombs, of Tionesta. The turkey was taken the first day of the season near East Hickory in Forest County.

Preliminary View of '61 Small Game Season Results

An early appraisal of Pennsylvania's small game harvest during the "regular" 1961 season has been provided by preliminary reports from Game Protectors.

The officers estimated the pheasant harvest was higher than in the 1960 season. Only in the southwest was the take of ringnecks reported lower. The overall squirrel bag was lighter, a considered possibility because the animals were traveling about in search of food, therefore were not in their usual haunts. Grouse were at least as numerous as during the previous season which often was called "the best in years." Early estimates placed the hunters' wild turkey success at one-fifth to one-fourth more than that of the 1960 season.

The harvest of cottontail rabbits did not come up to pre-season expectations. Game Protectors estimate the 1961 bag of rabbits was perhaps one-fifth less than that of the previous season. But high ground vegetation and warm weather were in the picture, too, adding to the difficulty in finding rabbits.

Early in 1962 the Game Commission will obtain a final small game accounting from all its field officers. After the time-consuming task of tabulating this information and the deer and bear kill statistics are completed, Pennsylvania's official 1961 game harvest totals will be published.

Bounties Resumed On Predators Taken On or After January 1

The Game Commission resumed bounty payments with the start of the New Year. Valid claims for gray foxes, red foxes and great horned owls killed in a wild state in Pennsylvania *on or after January 1, 1962*, will be honored. The reward for each red or gray fox continues to be $4, that for each great horned owl $5.

These bounty payments were discontinued from October 28 to December 31, 1961, inclusive. This period covers principal hunting seasons, during which most shooting sportsmen kill predaceous birds and animals whenever the opportunity presents, without thought of remuneration.



Mr. Cramer



Mr. Stambaugh

Wilbur M. Cramer Retires With 47 Years of Service

If there ever was a "grand old man" of the Pennsylvania Game Commission, it is Wilbur M. Cramer who retired as Management Analyst on December 29 after 47 years of service. Mr. Cramer is 65 years old.

Wilbur began as a stenographer on November 30, 1914, in the Game Commission's Harrisburg office. Through the years he has been and done just about everything in the Game Commission including positions as Office Manager, Field Division Supervisor, Superintendent of the Game Commission's Training School, head of the Commission's Trapping Program, chief of the Commission's Training Program, Assistant to the Executive Director, Coordinator for the Pittman-Robertson Projects, and finally Management Analyst which he was when he retired.

Wilbur and his wife, Odessa, live at 205 South 31st Street, Camp Hill.

They have two daughters, Mrs. J. Marlin Moore, of Roanoke, Va., and Linda Louise, who lives with her parents. The Cramers have three grandchildren, two girls and a boy.

Stambaugh Ends 43 Years With State; 38 With Commission

November 17 was the big day for Charles C. F. Stambaugh, retiring as Chief Clerk in the Game Commission's Division of Law Enforcement. After 43 years of service with the state, 38 of which were with the Game Commission, Stambaugh retired at age 65.

With five years service in the General Assembly, Charles Stambaugh came with the Game Commission in 1924 as a Stenographer in the Bureau of Protection. During his years with the Commission he worked as Stenographer-Clerk, Clerk, Principal Clerk, Head Clerk, in the Division of Law Enforcement, Administrative Assistant in the Division of Propagation and Distribution, Supervising Staff Clerk in Land Titles and Records Section, and Special Staff Clerk in the Land Utilization Division. He became Chief Clerk in the Wildlife Protection Division and finally Chief Clerk in the Division of Law Enforcement.

Charles and his wife, Dorothea, live at 114 East Simpson Street, Mechanicsburg, and have one daughter, Lois Ann Hollinger, of Cumberland Park.

Moderate Harvest of Bucks In '61 Season

The harvest of antlered deer during the 1961 season of December 4-16 was approximately one-fourth lower than that of last year in most of Pennsylvania, according to Game Protectors' early estimates. The Game Commission's northeast division provided the lone exception. Buck hunter success there was described as comparable to that of 1960.

Undesirable weather reduced success possibilities, nearly season-long, over most of the state. Unseasonably warm temperatures, "noisy" under foot conditions and lack of tracking snow during the heavier-hunted days combined to reduce buck hunters' success in most localities. Erie County was an exception because snow cover was present there during most of the season.

Hunting pressure, too, was considerably below that of last year's buck season, particularly after the first two days. Some long-time hunters are of the opinion more people would have responded to the urge to hunt a buck had there been a tang in the air and snow on the ground.

The results of the recent antlered deer season will not be known and officially stated until the reports of successful hunters are received and tabulated.

1961 Bear Harvest Below Average

Reports received from Game Commission field offices indicate Pennsylvania's 1961 harvest of black bears likely will be in the neighborhood of 250 legal animals. This total is well below the take of 392 bruins in the similar one-week season of 1960 and the average kill of 350 per year in the last decade.

The Game Commission's 10-county northcentral division reports an estimated kill of 165 bears, the most for any of the six divisions. According to early reports Lycoming County, which accounted for approximately 50 last year, may again register the highest success in the state.

Not a bruin was known taken in southwestern or southeastern counties in the recent season. Though most of the bears in this state make northern Pennsylvania their home 10 were known killed in the Commission's southcentral division, in counties as follows: 5 in Mifflin, 4 in Snyder and 1 in Huntingdon.

Prior to the 1961 season bears were considered as numerous as a year earlier, and the number of hunters afield last year approximated that of 1960. Comparatively warm weather and the lack of tracking snow were the two factors blamed for the moderate 1961 bear hunting success.

PORTRAITS OF THE SEASON

February

This is the time of waddling skunk tracks, from drift to drift through the winter woods. Driven by a force beyond their reckoning, but as strong as the moonlight that shatters in the silver woods, the love-lit males brave the nights of February. Orion glitters high in the southern sky as the high-plumed, black and white animals plow from den to den on amorous errand. Overhead the first life stirs in the egg of the great horned owl. This should make some difference to the skunk who may someday fall to that owl's talons. But February's skunk has more than owls on his mind!

The seed is planted. The tumbling litters of the year have but to wait. The pond is still iced and bears the track of silver skates, but a sudden rise and a blue sky bring out a sweet sap icicle from a swelling maple twig.—*John Guilday*



Photo by Grant Heilman

PESTICIDES . . . THE GREATEST THREAT

"The current widespread and ever-expanding pesticide program poses the greatest threat that animal life in North America has ever faced—worse than deforestation, worse than market hunting and illegal shooting, worse than drainage, drought or oil pollution, and possibly worse than all of these decimating factors combined . . . we shall have been witnesses, within a single decade, to a greater extermination of animal life than has occurred in all the previous years of man's history on earth." These are the words of Dr. George Wallace, Professor of Zoology at Michigan State University.

Conservation Courted in 87th Congress' First Session

Natural resources conservation was courted vigorously in the first session of the 87th Congress, with the over-all result that several programs were strengthened, new ones authorized, and others moved along the legislative road toward hoped-for adoption next year, according to the Wildlife Management Institute. A few setbacks were scored, but Congress made progress on the natural resources front as it sifted and sorted through the more than 13,000 bills introduced during the session.

Group Discussion of Deer Management Expanded

During the past couple of years hundreds of interested people in about 20 counties have broadened their understanding and knowledge of deer management in Pennsylvania by participation in public deer management discussion meetings conducted by the Agricultural Extension Service in cooperation with the Pennsylvania Game Commission. In many instances the County Federation of Sportsmen's Clubs helped sponsor these educational meetings. In all cases they were supported by sports clubs, landowners, business interests and other citizens.

In order to expand this discussion program a 20-page discussion guide—"Deer Management in Pennsylvania"—is now available for sportsmen's clubs, farm and other landowner groups, business groups, youth groups and others. The publication presents various aspects of deer management: deer economics and policy, deer and forestry, deer populations and effects of hunting, deer and recreation, and deer research. A few points on using the guide for group discussion are included. Each section has a series of questions designed to stimulate discussion on the main issues.

The deer discussion guide was prepared by several staff members of the Agricultural Extension Service at Penn State University and by several research staff members of the Pennsylvania Game Commission. The material is factual and based on research done chiefly in Pennsylvania. The authors have worked together the past two years in the series of meetings where public discussion has been a featured part of the program. There has been a high level of interest, and participation by citizens who attended these panel discussion meetings.

Groups can obtain free copies of the publication from their County Agricultural Extension office.

1961 Antlerless Deer Season Disappointing

The number of antlerless deer harvested in Pennsylvania during the one-day season of December 18 fell below the anticipated kill, primarily due to unfavorable weather conditions which kept many hunters from going afield. Although the number of antlerless licenses was reduced less than 10 per cent from the 1960 allocation, the number of hunters afield dropped 20 per cent to 30 per cent from 1960. In the northcentral and northeast areas field reports indicated only 50-60 per cent of the license holders went out to hunt.

The final outcome of the one-day antlerless season will not be known until the big game kill reports are received and tabulated.

Field reports on the all-important weather and surface conditions showed a dreary similarity and pointed to the principal reason for the reduced bag—the hunters were not in the woods. Rain, fog and poor visibility were reported over all of Pennsylvania, at least during the morning. Ice conditions affected auto driving and foot travel, except in the southwest.

FIRST PLACE in the Amateur All Age Stake at the fall, 1961, trials of the Pennsylvania Brittany Club is Bench Champion Edandot Nanette. The dog's owner, Edward Borger, Jr., son of Game Commission Land Manager Edward Borger, Sr., of R. D. 2, Polk, proudly displays his dog and his winnings.



Soil Districts Hold National Convention in Philly

Two thousand conservationists from across the nation are heading for Philadelphia February 4-9, 1962, to attend the fifteenth annual convention of the National Association of Soil Conservation Districts.

Governor David Lawrence is scheduled to open the convention. U.S.D.A. Secretary Orville Freeman and Federal Extension Service Director, E. T. York, are among the program speakers.

Pennsylvania is host to this year's conservation conclave made up of Soil Conservation District Directors from all fifty states of the nation.

The objectives of the National Association of Soil Conservation Districts is to encourage the conservation of the nation's soil and water, woodland and wildlife resources.

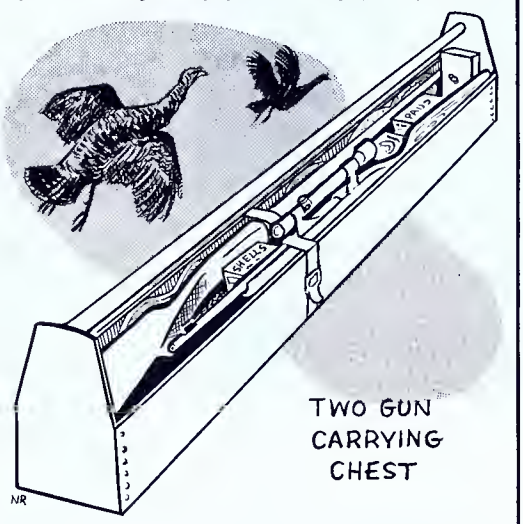
Pennsylvania's fifty-eight Soil Conservation Districts are scheduled to attend the convention in large numbers. Convention Headquarters will be at the Sheraton Hotel at Locust Street in Philadelphia.

Agencies assisting the Soil Conservation Districts in Pennsylvania will set up exhibits at the Convention Headquarters Hotel. The exhibitors will include: The Pennsylvania Fish Commission, The Pennsylvania Game Commission, The Pennsylvania Department of Highways, The Pennsylvania Department of Forests and Waters, The U. S. Soil Conservation Service, The U. S. Forest Service, The Pennsylvania State University, The Farmers Home Administration, Agricultural Stabilization and Conservation Service and The Pennsylvania Soil Conservation Commission.

Pa. Fourth in Deer Kill

Pennsylvania was fourth in the nation in whitetail deer kill in 1960 with 68,663 animals. Texas was first with 175,000, Minnesota had 95,300 and Michigan killed 76,800.

TIPS FOR HUNTERS



Two-Gun Carrying Chest

For hunting trips where two guns are taken, a simple carrying chest can be built for the car trunk or between the seats. Turkey hunts where both rifle and shotgun are used, or grouse-bear hunts are examples where two guns are needed. This chest will protect scopes, and furnish additional room for cartridges, shells, cameras, binoculars, etc.

The chest is made of heavy, medium tempered aluminum. The bottom and sides are fashioned first, the ends are built with flanges and riveted to the main body. The carrying handle is an aluminum tube.—*Reverend George L. Harting.*

Lots of Game

LANCASTER COUNTY—We had far more game this year than we have had for the past ten to twelve years. The fellows that got out and hunted, and these were few, all had a good season. Those that sat on the stools complained as usual.—District Game Protector John P. Eicholtz, Strasburg.



JOHN B. SEDAM
Chief, Division of Minerals
Marysville, Pa.

Began Commission service on April 20, 1936, as Senior Game Land Technician. On December 16, 1938, he became Advanced Game Technician, and on January 1, 1939, his title was changed to Advanced Game Land Technician. On July 1, 1945, he was made Principal Game Land Technician, and on September 1, 1946, Assistant Chief of Land Operations. He became Supervisor of the Food and Cover Section on October 16, 1949, and served in this capacity until April 16, 1956, when he became the Chief of the Division of Minerals. On August 1, 1956, he was made Mineral Economist, which position he still holds.

GEORGE D. BRETZ
District Game Protector
Shippensburg, Pa.

Began Commission service on February 3, 1936, as Assistant District Game Protector, and on April 6, 1936, was made Traveling Game Protector. On January 1, 1939, his title was changed to Game Protector, and on August 1, 1949, to District Game Protector, which position he still holds.





BRUCE W. CATHERMAN
Land Management Assistant-P. R. Coordinator
Ligonier, Pa.

He began his Commission service as a Student Officer at the Ross Leffler School of Conservation on July 2, 1936. On March 1, 1937, he was made a Game Refuge Keeper, and on January 1, 1939, he became a District Game Protector until April 11, 1959, when he was made a Land Management Assistant in the Southwestern and Southcentral Divisions, which position he still holds.



RAYMOND H. MORNINGSTAR
Law Enforcement Assistant, Northcentral Div.
Avis, Pa.

Appointed a Student Officer at the Ross Leffler School of Conservation on July 2, 1936. On March 1, 1937, he was made a Game Refuge Keeper, and on January 1, 1939, a Game Protector. He entered military service on January 17, 1945, and returned to Commission service on June 16, 1946. He was made a District Game Protector on August 1, 1949, and on June 16, 1956, he was promoted to the position of Law Enforcement Assistant, which position he still holds.



ROLAND F. TURLEY
Game Protector-Land Manager
Martinsburg, Pa.

Per diem service August 1, 1935, to May 31, 1937. June 20, 1937, appointed as Student Officer. On March 1, 1938, he was made Game Refuge Keeper, and on January 1, 1939, became a Game Protector. On August 1, 1956, he became Game Protector-Land Manager, which position he still holds.



GEORGE W. KOEHLER
Exhibits Technician
Williamsport, Pa.

Appointed Game Refuge Keeper on May 1, 1929, and served in this position until January 1, 1939, when he was made a Game Protector. He went into military service June 19, 1942, and returned to Commission service November 1, 1943. On April 6, 1944, he voluntarily resigned from the Commission. He returned on a per diem basis on March 29, 1950, and on May 16, 1951, was appointed a Wildlife Exhibitor, and on August 1, 1956, his title was changed to Exhibits Technician, which position he still holds.

Tree Detectives in the Boas Street Woods

By Marian N. Baker



Photo by Elwood Grimes

SYCAMORE OF BOAS STREET clings to its seed balls in midwinter since nature stripped it of its leaves.

WHAT are these dark objects scattered over the surface of the snow at the mercy of the blustering winds this cold morning in February?

The snow is peppered with winged seeds that have landed headfirst in the drifts, much like unsuccessful skiers. This will require the work of a detective to unravel the clues. Bring your magnifying glass and come along, we will do a little tree sleuthing in the Boas Street Woods.

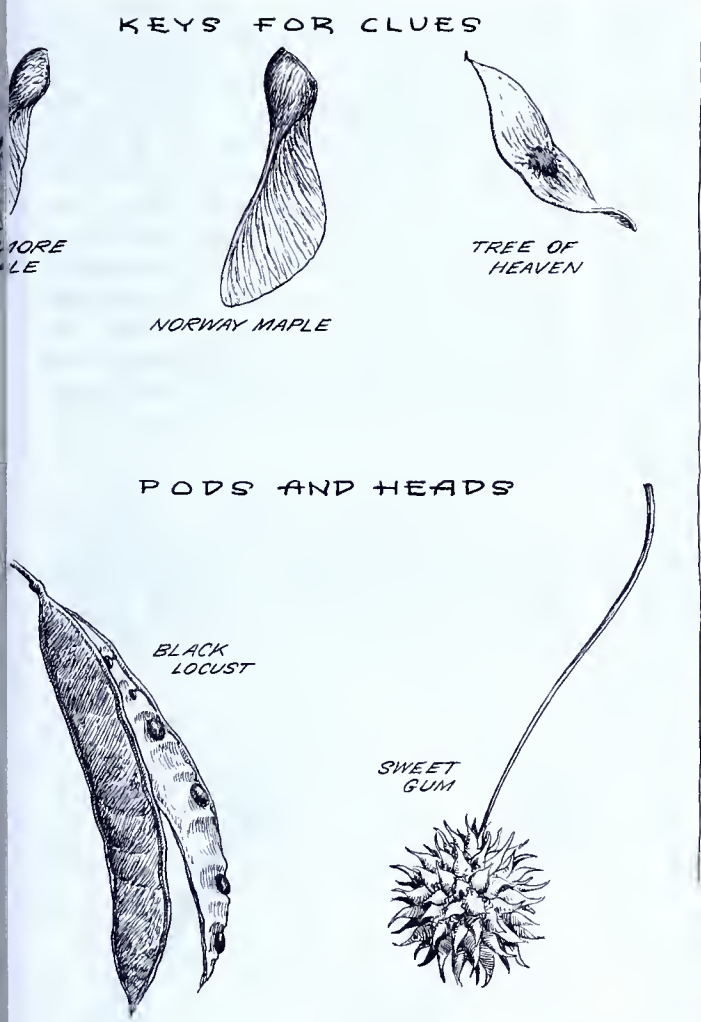
Botanists call the winged fruits a samara or a key. What an appropriate name—a key to unlock the mysteries of the tree world!

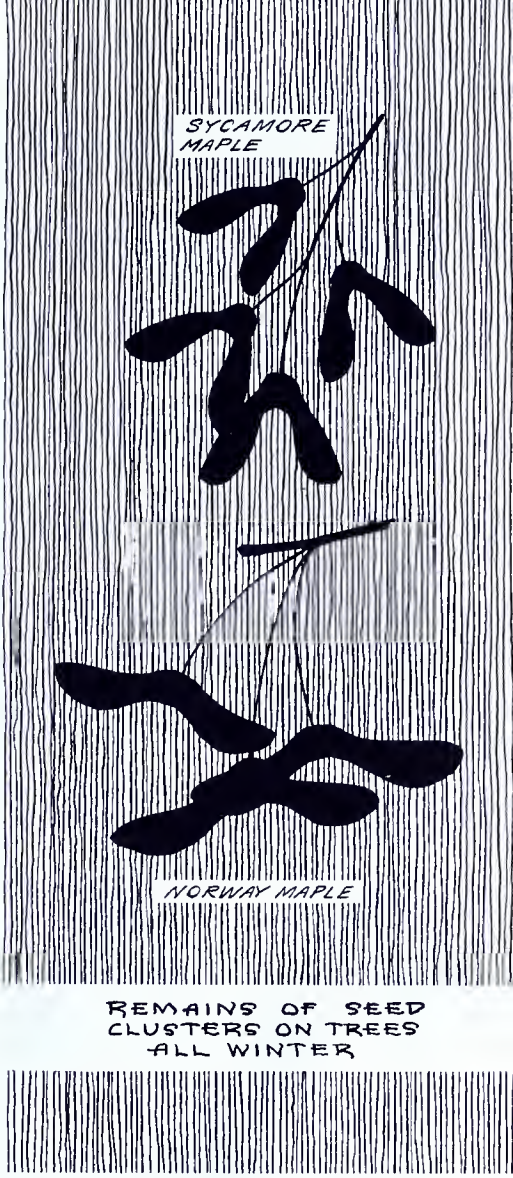
These are the keys of maple trees. I'm sure you have seen them many times. Each seed is encased at the base of a propeller-like wing. Two of these seeds are produced in one maple flower. Sometimes they remain attached as pairs, other times they fall singly.

As I pick up representative keys for clues a gray squirrel stops to look inquiringly with its paws clasped to its front, then dashes across the street and leaping to the scaly trunk of a tree scuttles to the back so I can't see him and reappears in the branches above. Rectangular pieces of bark rattle to the pavement from his scratchy ascent. There he sits, "no hands" on a branch and dexterously selects a samara from a drooping spike-like cluster of keys and meditatively munches the fleshy seed while the discarded wing slowly spirals to earth.

I try the smaller key in my collection with its round fleshy seed and narrow neck and find that it unlocks the secret of the sycamore maple, being a replica of the one the squirrel is eating. This maple gets its name from the fact that its rough bark and fleshy leaves were thought to resemble those of the sycamore tree. The lateral buds with their overlapping green scales extend out from the twig. The terminal bud is large, about half as wide as it is long, with two lateral buds on either side of it.







The other key in my collection is larger than that of the sycamore maple and has a sturdier appearance; the seed is flat rather than round and fat, the wing is wide and has no notch.

This is the key to the mystery of the Norway maple. The Boas Street Woods is full of Norway maples, as is every city street. Of the eighty odd trees that line Boas Street sixty-seven are Norway maples. Most of the seeds have fallen now, but the stems of the flower clusters radiating from a common center are still plainly visible with a few representative seeds attached. The bark of the Norway maple is ridged and dark on the older trunks and light brown and smooth on the twigs. The buds are the size and shape of the sycamore maple, but they differ in that they lie close to the stem and are brown instead of green.

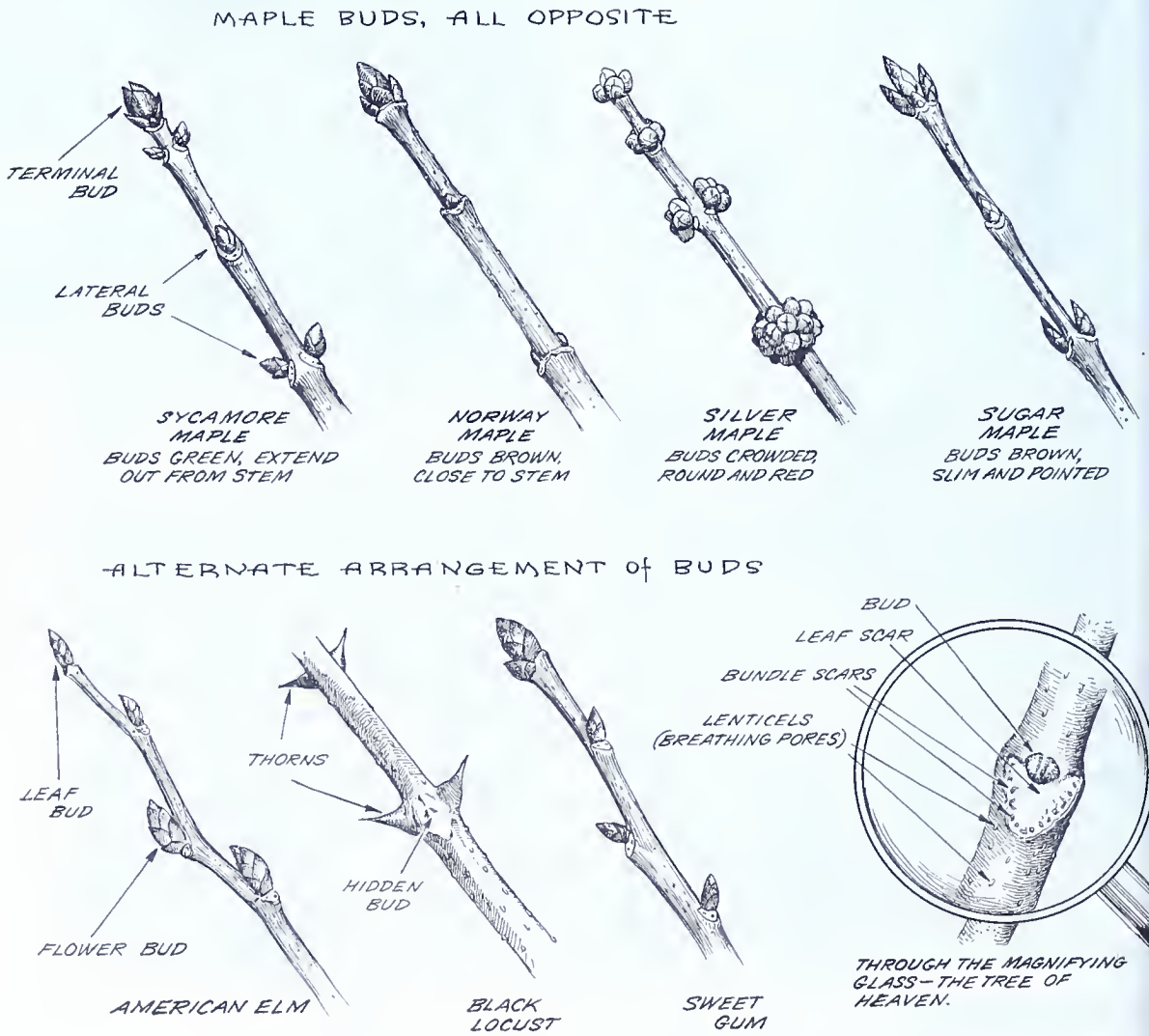
Maple trees have other characteristics in common besides having the same general plan for their fruits. All maples have their winter buds arranged opposite each other on the twigs and many of the twigs are opposite, too, except where some accident has befallen the bud which would normally have produced a twig.

On many young trees in our street the short opposite twigs look like spikes driven straight through the branch. They make convenient and artistic perches for birds. Yesterday the cardinal was sitting on one of these pegs on an upright branch of

our neighbor's Norway maple, whistling his clear melodious tune with the sun shining square upon him. It was a heartening sign of spring. People walking along the street looked up and were glad.

Coming home by way of the alley I picked up another winged seed. This is a different one altogether. The samara has a spirally twisted wing about an inch and a half long and half an inch wide. The seed is right in the center of this wing and looks for all the world like one of the caps you used to use in a cap pistol. This tree isn't hard to find. Here it is serving as a post for the corner of a garden fence. It has been here for some time and so has the fence because the former post and wire are embedded in the tree. Its growth has slowly engulfed them. The seed clusters are heavy and bulky, lacking the grace of either the ash or maples. This is really a city tree—the ailanthus or tree of heaven. With such a name you would expect it to have unusual charm or beauty, but this is not the case. It is sometimes called a weed tree because it spreads rapidly not only from seeds, but root sprouts. Young trees of heaven spring up in the alley as tall canes that can be broken off easily. Children sometimes use them for spears.

The next time you find a cluster of these sprouts look at them carefully. It is just like looking at a twig through a powerful microscope because everything about them is so pronounced



and oversized. Notice the fine down that covers the twigs. The buds with their overlapping pairs of scales that don't quite meet are tucked in the notch at the top of each heart-shaped leaf scar. These leaf scars, where last year's leaves were attached, are the most noticeable feature of the twig. There is a V-shaped line of raised dots close to the edge of the scar. These are called bundle scars, they are really the sealed off ends of the tubes that carried the water and minerals to the leaf factory and the processed food to other parts of the tree.

Like Bean Pods

Here is another kind of fruit lying on the snow. It is neither a ball nor a samara but a pod. You are familiar with bean pods; this is one of their relatives. The pods are flat; some are three or four inches long, others smaller. This one that I have found is just half a pod with the small bean-like seeds attached along its edge and lying in slight depressions in the smooth, cream-colored lining of the pod. The outside is dark brown and seems to have a reinforced edge.

This is the pod of a locust tree and the tree, an old residenter, stands in the middle of a snow-covered yard. It is full of fruit. The bark is rough and ridged with yellow fissures between the ridges. The locust is a tree that hides its winter buds. You will not see anything but pairs of spines on the twigs. Look between them and dig in carefully and you will find the doubly protected bud. The buds are alternate and like the tree of heaven there are no terminal buds.

Here on the sidewalk is a brown ball with a short stalk attached much on the plan of the sycamore balls except that this one unlike the sycamore has spiny processes all over it. It is really a collection of seed cases arranged in a head. The two spiny prongs at the opening of each case look like gaping birds' beaks—like the pictures of "four and twenty blackbirds baked in a pie." Many more similar balls are still dangling from the tree under which I found this one. They are the seed ball of the sweet gum tree — although I have never found any fully developed seeds in the cases of the ones I pick up in the Boas Street Woods.

The sweet gum like the sycamore has its winter buds arranged alternately along the stem, but the buds with their six overlapping reddish-brown glossy scales are different in appearance from those of the sycamore. The twigs, too, instead of being zig-zag are straight in outline and are oftentimes winged with flat projecting ridges along the sides. The bark is gray and deeply ridged on the trunk, showing no tendency to peel off.

These clues have led us to five different kinds of trees, the Norway maple, sycamore maple, black locust, tree of heaven and the sweet gum.

There are other trees in the Boas Street Woods that have left no clues on the white snow. As you look among their seemingly bare branches you will see the arrangement and size of their buds although they may be far out of reach.

City Tree Trimmers

Yesterday as I walked in the woods I discovered the city tree trimmers had just passed by. There were twigs of every sort lying about in their wake. Here were some from the very trees I had been wanting to examine.

The first one was the silver maple. Its buds are round and red and crowded. Like all maples the buds are opposite, but there are three in a cluster and hence they seem to surround the stem completely. They are crowded very close at the ends of the spike-like twigs and only by carefully removing each group of three separately can you discover the opposite arrangement. When the silver maple is laden with snow the short opposite twigs with their bud crowned tips look like jeweled clasps supporting the snow along the branches.

The other twigs the tree trimmers practically threw in my lap were those of the American elm. Its buds are alternate, some are quite large and lop-sided with brown overlapping scales; others are neat and pointed. The former are the flower buds and the latter are the leaf buds.

Seeds and buds are nature's plan for the propagation and growth of the species. If we were to open a maple seed we would find neatly folded and packed away an embryo maple tree with two strap-like seed leaves containing the stored food for the new plant until it can establish its own roots and make its own food. Winter buds are, in effect, like a seed. Under the protecting scales are the much reduced and neatly folded leaves, stems and flowers for the coming summer season. Some buds contain only flowers, others leaves and still others both leaves and flowers. These are the growing points of the tree. Unlike the seeds there is no stored food in the bud since it remains attached to the parent plant where there is sufficient food to sustain it until the leaf factories are established.

Suggestions

This is the season of the year to bring in winter buds and put them in water. Some of the ones that respond readily to this treatment are not trees but shrubs — forsythia, japonica and magnolia. Try the same experiment with other types of twigs.

Make a three-dimensional picture of a tree. To do this first draw the winter outline of your tree. Then apply real twigs to supplement the one you have drawn. This procedure lends itself to an entire mural of trees in winter.

BEARS THROUGH THE YEARS

The following information on bears in Pennsylvania was taken from the record:

The average annual reported bear harvest in the last decade, 1951 through 1960, was 350.

The highest number of bears reported bagged in one season was 707 in 1930. The lowest was 149 in 1942.

The largest black bear on record in Pennsylvania was killed December 4, 1923, near Milford, Pike County. Weighed before being dressed out this animal tipped the scales at 633 pounds. Its total length was 9 feet.

Since 1925, the first year bear cubs of the year were protected in Pennsylvania, legal bears reported harvested in the state total 14,345.

There was no bear season in 1934, when the Game Commission thought possibly the animals were being harvested too rapidly. Totals for the other years are:

1925—470	1934—(closed)	1943—307	1952—261
1926—660	1935—402	1944—295	1953—303
1927—321	1936—356	1945—366	1954—403
1928—427	1937—537	1946—325	1955—363
1929—447	1938—384	1947—569	1956—335
1930—707	1939—535	1948—388	1957—294
1931—501	1940—524	1949—411	1958—439
1932—216	1941—593	1950—354	1959—296
1933—586	1942—149	1951—429	1960—392

In 1935 the game law prohibited the use of dogs in hunting and chasing bears in Pennsylvania.

Pens and pitfalls for taking bears were outlawed in 1915.

Steel traps for catching the animals were ruled illegal in 1911.



OUTDOOR FUN WITH A FUTURE



Things to Do in Winter

By Ted S. Pettit

WHEN the early colonists came from Europe to America, they brought with them a bit of folklore that has lasted in this country for more than 300 years. There is little doubt that on February 2 most newspapers and radio or TV newscasters will mention ground-hog day some place or other, somehow or other.

From early Christian times, February 2 has been celebrated as Candlemas Day, and as an ancient proverb has it:

"If Candlemas Day be fair and bright,
Winter will have another flight;
If on Candlemas Day it be shower and rain,
Winter is gone and will not come again."

In the Old World, the hedgehog, badger and bear were appointed as weather forecasters. If the sun shone brightly on February 2, and these animals saw their shadows, they went back into their winter dens for another six weeks of wintry weather. But if the day were cloudy and the animals did not see their shadows, spring was said to be just around the corner and the animals became active after their winter sleep.

When this bit of folklore was brought to America the woodchuck or ground hog was selected as the weather prophet. And February 2 is the day on which we find out when winter will end and spring begin.



WEATHER FORECASTER or not? One interesting winter game is to find out for yourself. Locate a ground-hog hole and check it a couple times a week for tracks and see when he really does awaken.

But leaving legend and getting down to natural history, it is interesting to note that there are records of woodchucks coming out of hibernation when the snow is still deep and temperatures low. Competent observers have seen woodchuck tracks around burrows even when the animals had to dig up through several feet of snow.

Here are two projects that are a lot of fun. First find out just when woodchucks come out of their dens in your part of the state. Go out into the field on Saturday, February 3, where you know there are woodchucks, and look for tracks. Go out every week or ten days for the rest of the month and into March and find out just when

woodchucks wake up from their winter sleep and roam around looking for food.

Along with this project, here's another that involves nothing more than reading a daily paper that prints weather records. Most daily papers carry a Weather Bureau column that gives the high and low temperatures each day, the amount of precipitation (rain or snow) and whether the weather is cloudy, partly cloudy, clear, raining or snowing.

Keep a chart for several cities in the state, noting first whether it was clear or cloudy on February 2, and then what the highs and lows are for the next few weeks.

Keep a record of high and low temperatures in your own area, too, and see if there is any relation between a warming trend and the time you see the first woodchuck or woodchuck tracks.

There are other things to look for and to do, while watching for the first woodchuck tracks that will help you find out more about wildlife in general and how animals live during the critical part of the year.

Last fall, in general, the weather was good for wildlife. It was warm through early winter with no early snows. Most animals should have gone into the winter in good physical condition. But it is the end of the winter period that is hard on many animals. They have used up much of their fat during the winter and on top of that, usually, they have to range farther and farther from their home base to find food. Prolonged snows, ice or frigid temperatures may call for emergency action.

Check with your nearest Game Protector to see if there is anything you can do to help. Winter is a good time also to build woodduck houses. When you go out on your weekly or bi-weekly trips to check tracks take along a woodduck house and set it in an appropriate place. But get the advice and help of your Game Protector both as to the plans for the house, where to set it out, and how.

Winter is an excellent time to find





out what small mammals live in your area. An easy way to do it is to look for an owl roost. Clumps of pines or spruces along the edges of open fields, highways or golf courses are good places to look for long-eared owls and even barn owls. But old barns, large hollow trees, abandoned houses—even church belfries—may provide winter shelter for barn owls. Screech owls seek shelter in old flicker holes or in rotted out holes in trees. Great horned owls may even be nesting now in an old crow nest high in oak or maple.

In any case look under these roosts or possible roosts, for owl pellets—the undigested parts of small mammals and birds that owls have regurgitated. Pellets, in general, are oval shaped bits of fur and bones from an inch to 2 or 3 inches long depending upon the kind of owl.

But by picking apart the pellets and finding skulls you get an idea of which mice, shrews, voles or rats are common enough in your area to provide food for owls. Use "A Field Guide to Mammals" by Burt and Grossenheimer, Houghton-Mifflin Co., Boston, Mass., to identify the skulls.

For the deer or white-footed mice, red-backed mouse, meadow vole or pine vole, all have an important place in nature. When they are abundant, they provide food for hawks, owls, foxes, weasels, and other meat-eaters. But if they are scarce, the meat-eaters may turn to squirrels, rabbits and game birds for a larger part of their diet.

Depending upon the season, February and early March may be a good time to look for some of the more interesting winter birds that turn up irregularly and in unpredictable numbers from year to year.

The snowy owl is one of these and one of the more spectacular birds to find.

About the size of a great horned owl, it is much lighter in appearance. It may be seen over marshes or swamps or flying or perched near open water along rivers and large streams. Sometimes it may be seen flying over open fields.

Among the smaller birds to be found in winter are redpolls, crossbills, siskins and grosbecks. They may turn up at winter back-yard feeders or they may be found in wooded areas, especially pines or spruces. Here they pick apart the cones to get the seeds they contain, and often the leaves of cones scattered under a pine are evidence that these birds have been there to feed.

Another winter project that is fun is the collection of insect cocoons and egg mosses. They are easy to find in winter on low growing shrubs and weed tops and when taken home to hatch, provide some interesting observation for some months to come.

It is best to keep them outdoors, though, rather than inside. Otherwise they hatch or emerge too quickly. They may be kept in wire cages in an unheated garage or barn, or in a "cage" provided by a window screen set in place in a window. There they may be observed easily, and because they are outside, generally they will not hatch until the normal time — spring. "Insects" by Zim and Colton, published by Golden Books, New York, is a good book to use when identifying egg mosses and cocoons.

Indoor Projects

It is possible and probable that some weekends in February and early March may be too miserably cold, windy or wet to make it much fun to go out into field or woods. But there are many things that can be done inside that are still fun.

Some of the insect egg mosses or cocoons can be kept inside where it is warm so they will hatch or emerge early. If photography is one of your hobbies, make a set of pictures or a movie of a preying mantis or tent caterpillar egg moss hatching, or a cecropia moth emerging from the cocoon. It's easier inside than out, anyway. Since you can control light conditions and there is no wind to cause trouble.

Collecting bird nests and making photographic closeups is an interesting project and one that can be helpful later for identification.

February, too, is a good time to make nesting boxes for bluebirds, tree swallows, chickadees, crested flycatchers, wrens, flickers or downy woodpeckers. Birds seem to prefer nest boxes that have weathered for a while, so boxes made now and set out in early March stand a better chance of being used. But be sure to make bird houses carefully and according to the specifications for a particular bird. The following chart gives sizes for different species, size of the hole, and the height above the ground to place the house.

These are only a few things to do in winter that are outdoor fun with a future. Try some or try them all. They will show you more about animals and how they live.

BIRD BOX CHART

From Nature Merit Badge Pamphlet

Bird	*Floor Size*	*Height of House*	*Hole Above Floor*	*Diameter of Hole*
House Wren	4″ x 4″	6″-8″	6″	1″
Chickadee	4″ x 4″	8″-10″	6″-8″	1⅛″
Titmouse	4″ x 4″	8″-10″	6″-8″	1¼″
Nuthatch	4″ x 4″	8″-10″	6″-8″	1¼″
Red-headed Woodpecker	6″ x 6″	14″-16″	12″-14″	2″
Tree Swallow	5″ x 5″	6″	5″	1½″
Bluebird	5″ x 5″	8″-10″	6″	1½″
Crested Flycatcher	6″ x 6″	8″-10″	6″	2″



Happy Ground-Hog Day!

"COME the heat and drought of late summer, he dozes in the cool confines of his burrow. That's estivation—of a sort. The winter he spends in deep sleep. That's hibernation. And on his own day in February he reveals the nature of spring weather to follow. That's long-range prognostication.

"But the ground hog's more than a prize sleeper and prophet," says Joe Linduska, Director of Public Relations and Wildlife Management for Remington Arms Company. "He's a liability and an asset, nuisance vermin and prized game, a builder of homes for indigent rabbits and a razer of homes for indignant vacationers.

"First off, he's a topflight engineer and a soils expert of no small skill. It's not often you'll find a drowned-out woodchuck den. They pick their sites carefully — well-drained sidehills with a view. And where they have a choice, they select their soil type with even greater wizardry. In Connecticut, a survey of woodchuck excavations showed they were unerring in the selection of sandy loam. The accuracy of their judgment in this department was short of amazing since the area was a patchwork of soil types.

"After deciding on the place, time is no problem to a woodchuck. He has all summer and digs a little now and again as his mood moves him. Some are shiftless and settle for basement apartments of utility size with a single opening. Others are like folks converting old barns. They add a room here and a door there with the result that some deep-down dwellings are elab-

orate affairs. In Michigan one excavated den had over 56 feet of tunnel and five entrances. Some go down over six feet but the average maximum depth is nearer four feet.

"A little super structure appears desirable with the result that brush piles are favorite spots for a tunnel entrance. Abandoned buildings the same. And summer cottages frequently turn up with adjoining basements that weren't in the plans.

He Gets Company

"Like country folks in summertime, the woodchuck has lots of company, too—except his come in the dead of winter. Skunks, opossums and rabbits aplenty all drop in. But the proprietor doesn't mind—in fact, he doesn't even know they're there. He's in deep sleep in private quarters sealed off from the den proper. His normally rapid heart beat (up to 200 per minute) is slowed to a chug-chug of four to five beats per minute. And his body temperature is reduced, too, from a normal 37°C to eight. It all tends to conserve energy during the long six-month sleep and abstinence from food.

"Dig out a woodchuck den in winter and you're likely to find most anything – anything, that is, except the owner and regular tenant. The hibernating cell is so skillfully sealed off that it's seldom you can spot it from the main tunnel. But skunks you'll find, sometimes a dozen or more, huddled together in deep sleep. Mostly they're all females.

Rabbits Use Them, Too

"Rabbits, too, will take to 'holing-up' in rough weather. In Michigan a study was made to determine the extent of den use by cottontails. Ferrets were run through 181 woodchuck burrows and rabbit occupancy was correlated with temperatures. Below 12°F 'holing-up' was three times as prevalent as at temperatures above this level.

"In spring—even early February in some places—ground hogs begin to surface. They breed soon after emerging from dens and 31 to 33 days later, they have four to six young 'uns. They eat, and lie in the sun, and eat and eat.

"They're not what you'd call fussy eaters and will try almost anything green. Alfalfa, clover, dandelions and *my* cantaloupes are favorite foods. Most any garden vegetable suits them fine—even onions.

"For a burrowing critter that spends more than half his life underground you might expect him to be ungainly on the ground. He's not. Like the overweight executive type, his gait's a little ambling. But he can make good time under pressure. And he can shinny up trees and do a fair job of swimming. I've seen them – of all places – sitting on a fence post. And this summer we thought we had a beaver in one of our duck ponds. It turned out to be a well-larded 'chuck leisurely paddling across the ten-acre pool.

New Breed of Riflemen

"More than any other animal, the ground hog has led to the development of that special breed of rifleman —the 'varminter.' In advanced classes of this select school the challenge lies not in numbers bagged but in 'chuck to rifle distance. The result is stalking in reverse.

"Upon spotting his quarry, the purist walks or drives *away* from it until it all but fades from the naked eye. Then he hauls it back with a ten-power scope, and with sandbags and careful reckoning of wind, trajectory and other variables he squeezes, hoping for that shot he'll remember. First it's 400 yards, then 450–500–.

"On a first exposure to the sport, mine came last spring, 550 yards if a foot. For a week I was elated. Then questioning glances forced an exact measurement. Well, it was still enough to add a convert to the cult."



More About the Guns of the War and the West . . .

Martial Percussion Revolvers Of 1861

By Jim Varner

Part II

AS YOU settle down in your easy chair these long evenings we hope all of our readers will benefit in some way by getting better acquainted with the short-arms, or handguns, of the 1861 period. If any writer believes he knows all about the mass of designs and inventions attempted during, and after, the great Civil War we believe he has a surprise coming which will deflate his ego considerably. The research necessary to coherently present true facts on this complicated subject makes the author of this column feel that way, and we have been studying and using many of these old arms for over fifty years.

Last month we concluded our treatise with a brief rundown on the two leaders — the Colt and Remingtons used by the Northern Army during the Civil War. We mentioned the Starr as third in importance. The Starr





SINGLE-SHOT pistols which were used by both sides in the Civil War. Simon North's famous military pistols were used by our Army in the War of 1812 to the Mexican War.

.44 caliber double-action revolver with six-inch barrel, weighing an ounce less than three pounds was the most popular of Eben T. Starr's products. His plant was located at Yonkers, N. Y., however, we understand he had plants at Binghamton and Morrisania, N. Y. He also made a single-action .36 caliber six-shot arm which was lighter and smaller over all. This one was purchased by the Ordnance Dept. in small numbers, as well as another model, rarest of all his arms, which was a heavy 3-pound three-ounce double-action .36 caliber Navy model. This arm had a swept back grip frame to make a more obtuse angle with the frame itself than the .44 cal. Army model.

The popular .44 cal. double-action model mentioned above had a top breaking action, and a six-groove rifling. Its 6-inch barrel was two inches shorter than the more common 8-inch of the day. Note the double trigger. To use as a single-action one had to cock the piece by hand and fire it by pressing the small rear trigger. All Starr arms are valuable collection pieces if in good clean condition.

Perhaps next in importance, from an Ordnance purchase standpoint, was the unique appearing "monstrosity" (from my standpoint), designed by Edward Savage and Henry S. North, and sold by Edward Savage, of Middletown, Conn. This revolver had a figure-8 trigger in the first model, and was .36 cal. The frame was bronze and had a brass cone front sight. It weighed 3 lb. 7 oz., was double action and measured 14 inches overall length. The lower ring trigger cocks the hammer and permits the cylinder to slide forward to form a gas-tight seal with the chamber. The uppermost loop of the figure-8 trigger mechanism contains the actual trigger itself. The 1860 model of this arm, known as the second model, contained several improvements over the original one. Chief improvement was a huge trigger guard covering the figure-8 and extending down the grip frame almost to the bottom (see picture). Like most of the percussions by the mid '50's and later, the .36 cal. Savage fired either loose powder and ball or a combustible paper or linen cartridge. Deservedly so, the life and popularity of this freakish appearing weapon was short.

As you may note by the picture, the Rogers and Spencer hammerless revolver made under the C. S. Pettengill's patent of 1856 was the most streamlined appearing of all percussion revolvers. It was certainly unique in appearance but proved unpopular. This .44 cal. double-action six-shot arm with its concealed hammer was made by Rogers and Spencer of Oneida, N. Y. Its mechanism proved too delicate for rough usage. However, we believe its poorly designed, awkwardly shaped stock would have prevented popular acceptance even if the rest of its mechanical make-up was sound. About 2,000 Pettengills saw Civil War service. They were known as the Pettengill Hidden Hammer Revolver.

Conventional Appearance

Rogers and Spencer's own design was far more conventional in appearance and was actually based on the Freeman of 1862. They were made in 1865 and did not see any Civil War service. These R. and S. revolvers .44 single-action arms are finely balanced and extremely popular with cap and ball shooters today. The author has

owned two of these fine old six-shooters and parted with both through some of his foolish "horse-trading" deals, to his sorrow. One or more of them belongs rightfully to any good collection. If you are fortunate enough to obtain one, cherish it.

Whitney Big

The firm of Eli Whitney delivered probably the sixth largest amount of percussion revolvers to our Ordnance Dept. from their Whitneyville Armory near New Haven, Conn. Their Whitney Navy model is a very close replica of the popular Remington percussion revolver in the same caliber. Whitneys are in great demand as collectors' items and make excellent arms for the cap-and-ball match shooter. They were well made and are highly accurate if in good mechanical condition. A large number of earlier Colt guns were also made in the Whitneyville factory.

From here on we will briefly mention less important arms, some approaching even more freak (Boob-McNutt) designs than the Savage or the Pettengill.

Probably the oddest one of these was the Butterfield .44, a five-shot single-action designed by James S. Butterfield, of Philadelphia, and made by John Krider. This ponderous firearm weighed heavier than the huge old Walker Dragoon, having a 5-pound plus average. Another one of its unique features was a mechanical disc-primer. This disc-priming magazine was located in front of the trigger guard. The fulminate discs were inserted in a tube, and then, by spring action, were fed to the percussion cones by cocking the hammer. If the wafers did not jam all was lovely, but they had a very embarrassing way of jamming when one needed them most. About your only hope in such a case when face to face with extreme danger was use the big revolver as a club or start running.

Some inventors must have seen practical features in the disc-priming feature of Butterfields as many percussion pistols and flintlock conversion muskets were later equipped with it. No Butterfields were purchased by the Northern Army but a large number reached the Confederate forces during the war. Records show these were purchased by Beauregard and Slidewell, of Charleston, S. C. Later the plant was confiscated by the Union forces. We were unable to obtain a picture of this arm.

The mid century flurry in percussion revolver production came from two chief factors. The first of these was the expiration of Sam Colt's basic percussion revolver patents in 1856. The other influence was the unprecedented demand for firearms caused by the tremendous westward expansion from the time of the discovery of gold in 1848 to Civil War military requirements. Counting out the many weird and freak designs of percussion revolvers we find such firms as Manhattan Arms Co., Metropolitan, Cooper and Walch all copied Colt's famous lines. Confederate manufacturers did the same.

One of the Best

During this great national strife one of the best revolvers made was by Leech and Rigdon. This six-shooter percussion was an exact imitation of the Colt Navy model 1861 six-shot .36 caliber. This firm's output was tremendous and the Leech and Ridgon quality was considered equal to Colt's

TWO FAMOUS REVOLVERS, the G. R. Alsop .36 cal. and the Savage-North Model known as the second model .36 cal.

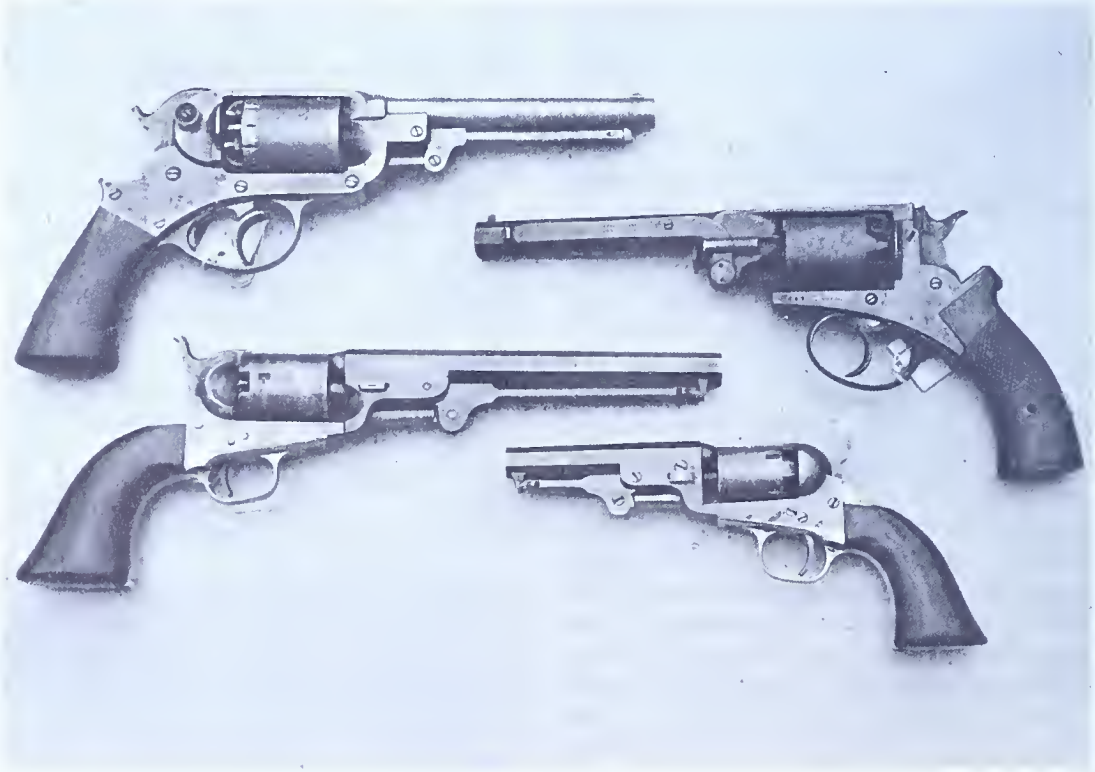




POCKET REVOLVERS better known as "sneaks." Top right is the Colt .36 five-shot flute model; top left, .31 cal. Manhattan Arms; lower left, Remington .31 cal. percussion; lower right, the Remington sheath trigger, usually .31 cal.

own arms. Most of these arms are marked Leech and Rigdon, Augusta, Ga. Apparently, later they moved to Greensboro, N. C., where they operated up to late 1863. Most all of these Confederate Colts were made with brass frames. In good shape, they rank high as a collection piece. Many of the Northern State's best handguns were successfully smuggled to the Confederates. They were also purchased from England and France. We believe the record shows the revolver found on General Stonewall Jackson when shot by mistake by his own men was an elaborate French Le Matt. This freak arm, made by a nation which was never able to manufacture a practical revolver, was a single-action nine-shot percussion weapon usually of .40 caliber. The top barrel is rifled to handle the nine shots from the cylinder chambers. Below it is a smooth-bore 20- to 16-gauge barrel designed for a big round or a charge of buckshot. It was copied by Confederate arsenals.

As stated before, some people considered Remington's percussion revolvers more rugged than Colt's, due



SOME OF THE BEST were, top left, Starr double action .36 Navy; top right, Adams and Kerr, .36 cal., made by Mass. Arms Company; lower left, Colt .36 Navy; and lower right, .31 cal. Colt six-shot pocket model.



SAM COLT'S world-famous percussion revolvers. Top, .44 cal. 1860 Army; .36 cal. Navy; .31 cal. pocket model; and .28 cal. Root Model with side hammer and top strap frame.

to the solid frame top strap and grip straps integral with the frame. Pettengill, Freeman, Rogers and Spencer, Savage-North, Starr and Whitney all followed the same frame construction, as you will note by the pictures. Warner and Wesson and Leavitt had the frame exposed on the underside of the cylinder. Adams, Allen and Wheelock, Aslop, Beals and Butterfield, other percussion revolver manufacturers for the military, also used the sturdier solid-frame construction which Colt later adopted in their cartridge revolvers. We might add the Joslyn percussion Army revolver of the Civil War period had all the features of the Root Model Colt pocket revolver on a larger scale. It used a side-screwed side hammer and was a strong well-made firearm.

Great Accuracy

The accuracy of the old Colt, Remington, Whitney, Cooper, Joslyn, Starr, Rogers and Spencer, and some of the others, when in good mechanical condition is comparable to modern arms in the hands of experts. We saw them used by the North and South Skirmishers at the Lake George meet two years ago and at Indiantown Gap April, 1961, and know they will shoot 90's at 50 yards quite consistently by men who understand loading them. The ones used vary from .36 to .45 caliber.

Shoots High

Most of these old arms tend to shoot high. They were usually sighted for 40 to 60 yards range, which makes them shoot high at the 20- to 25-yard mid-range. Take time to develop their best load and you will enjoy a lot of economical shooting with them. The correct charge for the .44 cal. is 15 to 20 grains of black-powder with a round ball that fits snug. First pour the powder into the upturned cylinder chamber in rotation. The pure lead ball or oval bullet should be placed with the sprue out then revolve the cylinder until the lead is under the end of the rammer. The rammer then is pushed down until the ball is seated. A pat of grease is then pushed over the ball or bullet. Repeat same for each cylinder. The grease serves the dual purpose of preventing chain ignition and also lubricating the barrel. Before loading snap a cap on each cylinder to free the nipples of any foreign matter or caked powder. Place the hammer at half cock while loading and do not put caps on the nipples until the arm is loaded and ready to shoot. The slow hammer-fall and slow ignition make it necessary to hold your aim after the trigger is pulled. Residue from black-powder is easily removed by the use of warm soapy water. Dry all parts and oil lightly as the steels in these old barrels rust easily and quickly.

Time is running out. A volume could be written on these arms that carry long pages of history out of the past. We will be unable to cover the many pocket arms and specialized models which were patterned after the big Martial Revolvers. These little "sneak" guns both prevented and accomplished considerable, both good and bad, but we will have to write on them at some later date if our readers are interested in such subjects.

Letters . . .

Is 12-16 Years Too Young To Hunt?

Mother Says:

I read your editorial "A Father's Duty" in the December issue of GAME NEWS.

I agree children should learn and appreciate the outdoors, but if some of our hunting laws are not changed, many of these children will not live to enjoy the outdoors and some of the fathers will be needlessly killed.

Why doesn't justice reign in our hunting laws? Hunting is, in my estimation, a wonderful, exciting sport. Hunting with a high-powered rifle is a *man's* game, not *boy's*. Hunting laws that allow 12-13-14-year-old boys to go in the woods with a weapon capable of killing are unjust.

These laws should be changed to protect all adult hunters and to protect the immature would-be hunters.

I am the mother of seven children, five teen-agers and a former hunter myself.

I know that children under sixteen are not capable of the emotional stability that is needed to be a good, safe hunter.

We don't allow these children to drive cars until they are 16, yet we allow them to endanger their own and other lives by taking a high-powered rifle in the woods during deer season. Statistics every year will prove my theory.

Please change the age to 16 for our young hunter.

Mrs. William English
207 West Seventh
Oil City, Pa.

Son Says:

They say that there is always two sides to every fence and it is to express my side of the fence that I am writing. You recently received a letter from my mother expressing the conviction that the legal age for hunting should be raised to 16.

Presently 20 years of age and a junior at St. Vincent College of Latrobe, Pa., I vividly recall the days 8 years ago as November 29 approached. This was an important date in my life, because it was the day on which I would be able to purchase my first hunting license. The first day of deer season that year left a memorable impression upon me. For two years I had prepared for this day by a series of "dress rehearsals," accompanying my father on hunting trips whenever possible. Those first 4 years of hunting were the most enjoyable and profitable I have spent, and without reflecting unduly upon my present hunting practices, they were indeed the safest years in the woods.

It is my contention, observed and substantiated in the past 8 years of hunting, that a 12-year-old, properly instructed in the handling of firearms and possessing a basic knowledge of the woods and the game to be hunted, is qualified and deserves the privilege of hunting. I do not believe that attaining the age of 12 automatically qualifies one for the woods and hunting. Nor do I believe that when one reaches the age of 30, he is automatically qualified. What qualifies is not the age but the proper preparation.

William J. English
207 West Seventh
Oil City, Pa.

In Pennsylvania it is unlawful for any person under 16 years of age to receive a hunting license without presenting a written request, signed by his or her mother, father or legally constituted guardian to the issuing agent. Persons 12 or 13 years of age must be accompanied while hunting by a parent or legal guardian or some other member of the family at least 21 years of age, unless hunting is restricted to the premises where the youngster resides. Hunters of 14 or 15 years must be accompanied by an adult of at least 21 years of age.—Ed.

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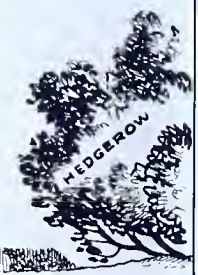
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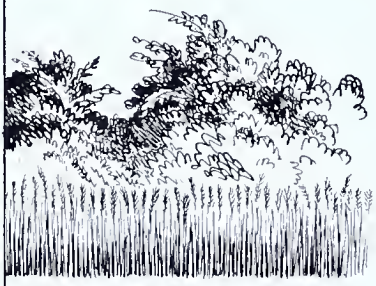
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HERE ARE SOME PRACTICES YOU MIGHT TRY ON YOUR LAND





LEAVE FIELD EDGES AND HEADLANDS UNPLOWED. MOW PERIODICALLY TO KEEP DOWN BLUEGRASS, ETC., AND ENCOURAGE GROWTH OF MORE DESIRABLE CLOVER.



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NED SMITH

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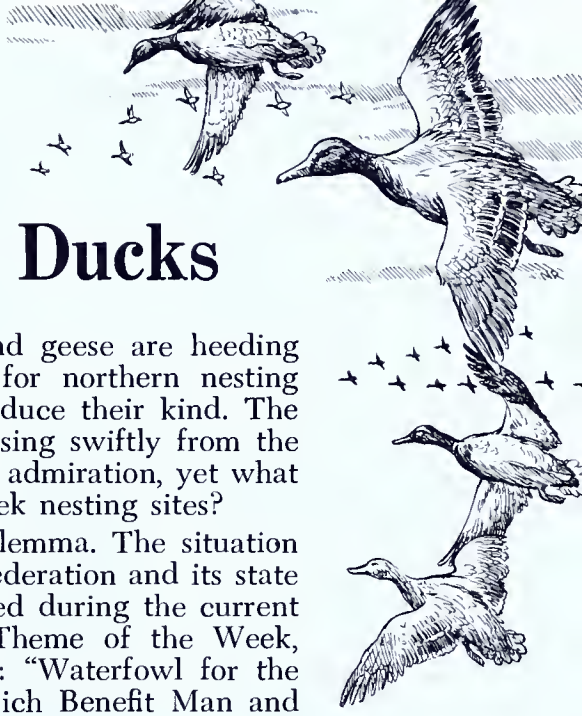
Cover Painting by
Ned Smith

COVER: Decoy making may be a lost art, but for many Pennsylvania duck hunters, there's no better way to spend a long winter evening than fashioning wildfowl out of cedar, soft pine, and oil paints. For the old-timers, skilled in producing lifelike decoys long before they came down an assembly line, this hobby is as much fun as hunting itself. And, no matter how good the commercial decoy, it can never replace the pride in ownership of the handmade "block." For the wildfowler dedicated enough to make his own decoys, there is no better theme for National Wildlife Week this month than "Conserve Our Wetlands and Insure Waterfowl for the Future." The worst fate a man of this kind can face involves his own decoys that wait for ducks which never come.

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Guest Editorial...



Dilemma of the Ducks

ALL over the continent, wild ducks and geese are heeding an age-old call of spring to head for northern nesting grounds where they will attempt to reproduce their kind. The "V" of high-fliers or the rush of a flock rising swiftly from the water seldom fails to stir our emotion and admiration, yet what will these birds find this spring as they seek nesting sites?

To put it simply, the ducks are in a dilemma. The situation is serious, in fact, the National Wildlife Federation and its state affiliates have decided it should be featured during the current observance of National Wildlife Week. Theme of the Week, being observed March 18-24 this year, is: "Waterfowl for the Future, by Conservation of Wetlands Which Benefit Man and Wildlife."

There is no question that ducks and geese are in severe circumstances. Many authorities say that continental flights of migratory waterfowl, once estimated in unnumbered millions, will dwindle to remnant flocks unless positive steps are taken within the next ten years to preserve their habitat. International aspects of the problem complicate a solution.

In spite of gunning, disease, illegal trapping, inadequate food supplies, and predators, waterfowl populations probably would flourish if habitat conditions were favorable, especially on the nesting grounds. Here, in the northern U. S. and in the prairies of Canada, rests the greatest problem.

Drought periodically hits the prairie pothole regions, as in the past few years, and the numbers of ducks decline. For more than two decades now, however, continuous drainage of wetlands is resulting in a permanent drought and waterfowl habitat has been reduced to a third of its original size. In the U. S., it is an inconsistency of federal government which subsidized drainage of wetlands to continue and create more agricultural land at a time when crop surpluses pose a major national problem. It is doubly inconsistent that one agency of the federal government should stimulate drainage of the waterfowl wetlands that another agency is seeking to acquire.

Clearly, immediate action is necessary to save the ducks and geese because of their tremendous importance to man. Funds for the acquisition of wetlands for nesting, resting and wintering areas come from sportsmen who purchase federal duck stamps, state hunting licenses and sporting arms and ammunition.

The best solution to an international problem of this sort appears to be in an international organization composed of representatives of the nations concerned. All of these problems then may be considered and resolved through coordinated efforts for the benefit of all.

Your Game Commission's Program on



Wetlands for Waterfowl

Photo by Grant Heilman

By Glenn L. Bowers
Deputy Executive Director

THOUSANDS of ducks and geese pass through or fly over Pennsylvania in their fall and spring migrations. Some just barrel on through without delay, some stop only briefly and others stay longer. Still others leave and come back to Pennsylvania—their summer home where their young are produced. In order to entice more waterfowl to stop for longer periods, conditions must be made more attractive to them. To have more nesting birds, better conditions must be developed in the production areas. Obviously, managing waterfowl and waterfowl areas is a complicated task. Many state game agencies and the U. S. Fish and Wildlife Service share in these responsibilities.

Pennsylvania was not naturally endowed with an abundance of wetlands, due primarily to its location and physiography. Many coastal and the prairie-pothole states could boast of abundant wetlands. But the battles to save many of these areas have been long and rugged and in too many cases unsuccessful. To save wetlands from drainage, reclamation and development for agricultural, industrial or other purposes, has meant constant vigilance and opposition on the part of conservationists. But still many areas have been lost. Certainly Pennsylvania has not been completely removed from the battle scenes. Through untiring efforts, some natural wetlands along the Delaware and in other areas have been preserved to be enjoyed by wildlife and humans.

Preservation, where the natural wetlands to be protected have relatively

limited distribution, may not be sufficient. Development of potential sites into wetland areas may help overcome the comparative lack of natural areas. To supplement natural wetlands and to help satisfy the need for such unique areas, many states, including Pennsylvania, have embarked on wetland development programs.

Some other types of development for wildlife are cheaper but none other is so dramatic. In this type of development, soil and water—basic for life itself—are brought together. The effect is tremendous and caters to myriad wildlife species.

Water and Wetlands Essential

Perhaps critics claim the cost is too high. But water and wetlands are essential to waterfowl and other species. In the future these costs may be justified threefold.

Who can rightfully criticize planning and preparing for the future—especially where water is involved? On the contrary, many conservation organizations and conservationists can be criticized for not looking and planning far enough ahead. Untold acres have been despoiled or lost because steps to protect, preserve or reserve them were not taken "in time." Similarly, potential wetland areas must be procured and developed or reserved while available. To wait may be too late!

The Pennsylvania Game Commission was too late in certain areas. But in recent years it has not waited. Potential wetland sites have been and are being acquired and developed or reserved for future development. When funds are available, work will be initiated on the backlog of areas acquired for wetland enhancement or development. Meanwhile, many of these areas provide benefits to waterfowl and places to hunt waterfowl and other small game. Also, as finances permit, other areas may be acquired for future use.

Development of these areas is a responsibility of the small marsh pond construction crew. From 1954 until its assignment to develop the Pymatuning Goose Management Area in 1960, this crew had constructed 29 small marsh ponds in northcentral and northwestern Pennsylvania. While the total acreage of water impounded in these 29 ponds is small, the benefits to waterfowl and other wildlife are large by comparison. In a sense, "only the surface has been scratched" so far. Further development and enhancement of these areas for waterfowl will pay bigger dividends in wildfowl utilization and production.

In addition to the 29 small marsh ponds, there are other impoundments on State Game Lands. Some of these were natural or man-made lakes or ponds already located on lands when purchased by the Commission. Other impoundments were constructed by the Commission beginning in 1936. Since northeastern Pennsylvania has more natural lakes and "swamps" than other parts of Pennsylvania, it naturally follows that the largest share of

DUCKS FOR THE FUTURE are being incubated under this hen mallard at one of the Game Commission's newly developed small marsh ponds. Potential wetland areas like this are being purchased and developed for future waterfowl production in Pennsylvania.



these areas is located in the northeast. Unfortunately, this region is not usually frequented by large numbers of waterfowl and migrant ducks and geese do not linger as long as in some of the better agricultural areas where preferred foods are common. Even though somewhat off the beaten waterfowl path, the benefits of these water areas to small numbers of producing waterfowl (residents) and to larger numbers of transients must not be underestimated. Let us not overlook the attendant benefits of these impoundments to other species including upland game.

Mallard Rearing Program

To "help nature" establish duck production on the developed areas, a mallard rearing program has been in operation. These ducks are released at an early age to encourage them to adopt the release area as "home." Should they mature and evade the hunters' fire or other demise, then it is hoped that they will return to these "adopted homes" to nest and produce young, and in this manner establish breeding populations on these developed areas. Thus, it becomes apparent that there are numerous phases to the Commission's wetland and waterfowl program.

Two Marsh Areas

Of importance to waterfowl are two marsh areas in northwestern Pennsylvania which fit into the pattern of waterfowl developments in that region. The first of these was established in 1954 with the construction of a



PGC Photo by Bob Parlaman

GOOSE MANAGEMENT IN THE ROUGH is shown here as workmen construct a pond for the new goose management program at Pymatuning Reservoir in Crawford County. This particular pond is located in the propagation area designated as a breeding grounds for Canada geese.

dam on the Conneaut outlet near Geneva in Crawford County. At maximum water level, a large marsh area containing over 550 acres is flooded. Water levels are manipulated to provide optimum marsh conditions. The second such area, known as Seigel Marsh and located on LeBéuf Creek, in Erie County, was completed in 1958. This is a smaller area embracing about 150 acres. Undoubtedly additional areas of this type will be developed contingent upon the availability of potential sites and funds for acquisition and/or development.

Singularly important to waterfowl in northwestern Pennsylvania is the Pymatuning Area. Originally a unique swamp, it was inundated by the construction of a dam and the filling of Pymatuning Lake in the mid '30's. The main lake is not as inviting to waterfowl as appendages to it and the "upper reservoir" is the prime waterfowl area. The several thousand acres embraced in the original Pymatuning Refuge, upstream from the Linesville Causeway, have contributed much to waterfowl and the sport of waterfowling in the area. The Refuge has been changed to a Propagation Area and it will continue to play an important role in the waterfowl picture there, especially in the Pymatuning Goose Management Area. Without question, additional benefits could accrue to waterfowl through control of carp and snapping turtles in this area. In due time, practical means to control these species may be attained. These are just a few of the many problems which creep into the waterfowl management picture.

Double-Barreled Approach

Wetlands for waterfowl and waterfowl for wetlands is a double-barreled approach. In addition to the mallard rearing program, the Commission also maintains a "captive goose" flock for production purposes. Most of the young produced are allowed free flight but in some cases mated pairs and/or young geese are introduced to



WOOD DUCK BOXES with their raccoon-proof tops are loaded on a Game Commission truck at Pymatuning. These same boxes were placed in the refuge and last year most of them were occupied by nesting wood ducks.

newly developed areas. To encourage the wood duck population, the Commission has erected many wood duck nesting boxes in suitable locations throughout the state.

Obviously the Pennsylvania Game Commission's wetland-waterfowl program is many sided. As a result, many individuals, groups and agencies are cooperators. They permit the erection of nesting boxes and may assist in the erection and maintenance of them. They may permit or assist in the development of waterfowl foods. The Pennsylvania Department of Forests and Waters and Allegheny National Forest cooperate in making areas available. The Soil Conservation Service and other agencies are cooperators. The Corps of Engineers has granted licenses to the Pennsylvania Game Commission for wildlife management on Flood Control Reservoirs, including features for waterfowl. And surely an important area in future years will be the Erie National Wildlife Refuge in Crawford County under development



PGC Photos by Bob Parlaman

GOOSE HUNTING THRILLS are the hope for the future in Pennsylvania's waterfowl management program. Here a hunter tries his luck at the Pymatuning Goose Management area during the 1961 season.

by the Bureau of Sport Fisheries and Wildlife of the U. S. Fish and Wildlife Service.

At this time quite a complex of developments for waterfowl have been completed, are underway or are contemplated for northwestern Pennsylvania. Other areas of the state do not lend themselves as well, but reservoir and other developments will add to the potential in many parts of the state.

In future years it is imperative that more people become interested in water—the earlier the better. Competition will become more keen—for use of land and water; and wildlife, including waterfowl, may have to take a back seat. Nonetheless, let us look forward to victoriously meeting the challenge of water, wetlands and wildlife problems. With sportsmen's cooperation and understanding we will be able to provide wetlands and waterfowl for future enjoyment.



REST AREAS are available for Canadas looking for food and safety at the Pymatuning Goose Management area in Crawford County. This picture, taken last fall, shows a part of the ever increasing flocks of geese using the new area.



WALKIN' SHOES

By NED SMITH



March's Early, Early Birds

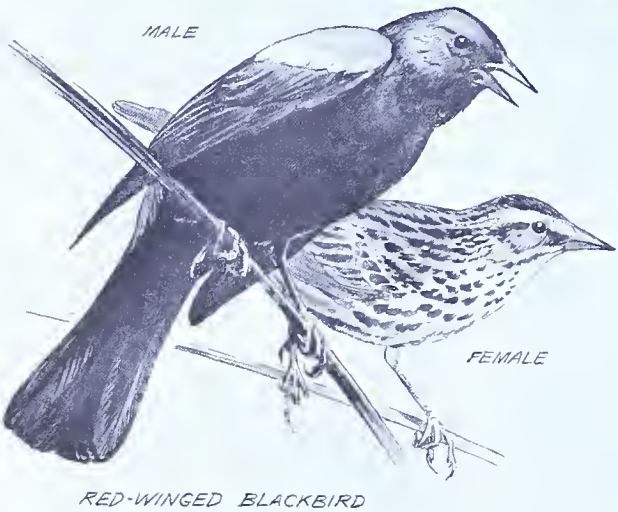
1. Are red-winged blackbirds mated when they arrive in Pennsylvania in the spring?
2. What early migrant's song sounds like the gurgle of water?
3. On what does the turkey vulture feed?
4. Name two black birds that have pale yellow eyes.
5. What sort of nest does the cowbird build?
6. What sparrow has a yellow spot in front of the eye?
7. Why are phoebes often seen perched near bridges?
8. What prominent feature distinguishes the grackles from other black birds, even at a distance?

GOOD old March! Though its beginning is but an extension of winter we know from experience that its bark is worse than its bite. All that roaring and raging is an act and even as it threatens it knows that the more pleasant side of its personality will eventually emerge. Not at once, mind you, for even gruff March must save face. But little by little, extending, withdrawing, it will mellow like a pawpaw does in the fall.

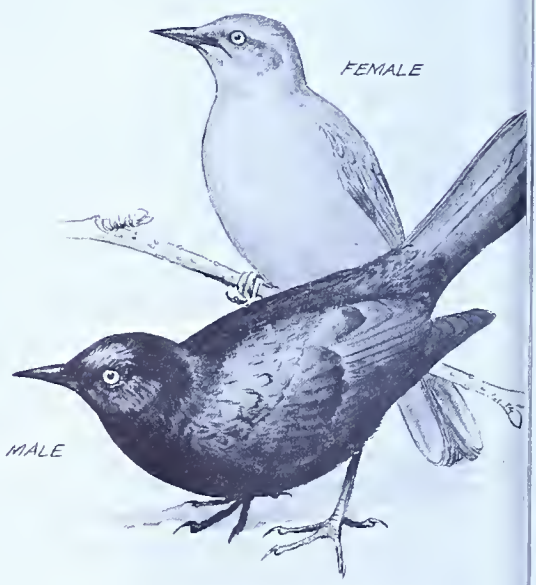
The outdoorsman knows where to look for these signs of mellowing, and his footsteps gravitate to the fastness of the lowland swamp, where green-briered banks, cattail marsh and leafless forest merge. The signs are everywhere, but nowhere obvious. Under those alders the skunk cabbage's striped hoods have pushed up through the soggy, black leaves. Even now they contain the first flowers of spring. Beyond them, on higher ground, the pussy willow's furry catkins have emerged from their clasping buds. Something funny has been going on in the ground-hog hole beneath that weathered stump on the bank, too. You'd think the grizzled old fellow would be glad to remain asleep, but apparently he felt springtime's urging, too, and left his bed long enough to clear the debris from his door.

But these are the passive signs of March's weakening. Look overhead to see springtime in action. Those winged forms hurtling across the blustery sky are not the mallards that wintered here. They are newcomers—a dozen graceful pintails on their way to the river just beyond the trees. Other birds have furtively arrived on the scene during the last days of winter. Preceding by weeks the hepatica's first bloom or the peeper's first peep they are infallible symptoms of March's going soft. Here are some of the earliest:

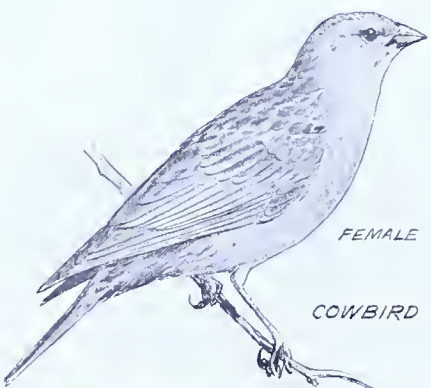




RED-WINGED BLACKBIRD

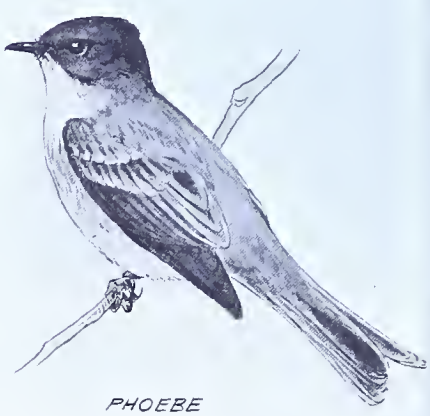


RUSTY BLACKBIRD



COWBIRD





PHOEBE

NED SMITH

Purple Grackle

In southeastern Pennsylvania the grackles have been with us all winter, roosting by the thousands in dense evergreen thickets by night and overrunning lawns and city parks by day. Now they are spreading out over the countryside. Lowland woods are echoing to their chorused "Chacks" and their long-tailed black forms are a familiar sight.

In full sunlight the male grackle is a handsome bird. Its plumage is entirely black, strikingly glossed with blue iridescence on the head, neck, and breast. The back shines with metallic green or purple, and the tail shows a purple or blue-black sheen. The eyes are pale yellow. The female is similar but duller. A western species, the bronzed grackle, is more bronzy-green in color. Both grackles can be distinguished from other black birds by their long tails which are keeled in flight.

Red-winged Blackbird

The male red-wings are first to arrive in the spring, and the ringing "O-ka-lees" of a feeding flock are among the most typical sounds of March. The mature birds are attired in plain black with gorgeous red epaulets on each wing. Frequently the red is concealed when the bird is at rest, but the buff border of the colorful patch always shows. The females, which arrive on the scene weeks later, are brown birds, conspicuously streaked with sooty brown and white below.

Red-wings are common summer residents in Pennsylvania swamps and grassy fields, attaching their well-constructed nests to cattails, bushes, grasses, or placing them on the ground. The males fearlessly guard their home territory against intrusion and promptly drive away any interloper, be it rival red-wing or wandering hawk.

Rusty Blackbird

At a distance this bird could be mistaken for the red-wing, which it closely resembles in size and conformation. The male is plain blue-black, however, with pale yellow eyes, while the female is slate gray with pale eyes. The common name is misleading —these birds wear their rusty plumage only in the fall and winter.

Rusty blackbirds are frequently seen in the company of red-wings, grackles, and starlings, but soon leave these summer residents and head northward to their breeding grounds.

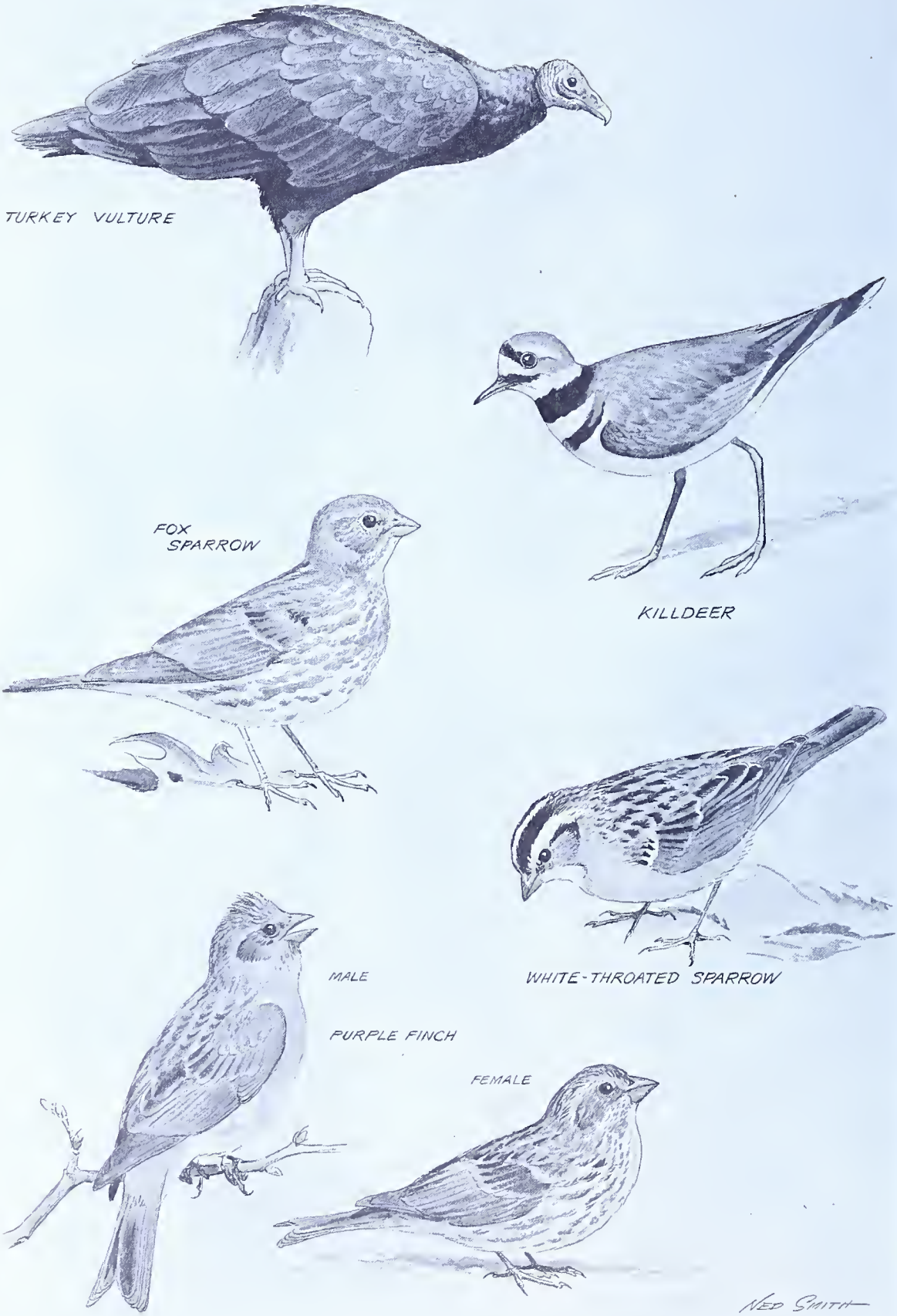
Cowbird

A smaller bird than any of the preceding, the cowbird differs from them also in having a short, stout bill. The male is a beautiful metallic blue-black with a coffee-brown head and neck. The female's plumage is plain, dull gray.

Almost as soon as these birds arrive in Pennsylvania (a few winter in the southern part) the males begin their courtship, strutting before the lady of their choice and uttering their strange song. The latter consists of a few gurgling notes that sound like water being poured from a jug, and ends on a high, squeaky note. The cowbird builds no nest of its own but lays her speckled eggs in the nests of other birds. Few species are spared, but the most commonly victimized are the yellow warbler, chipping sparrow, song sparrow, field sparrow, red-eyed vireo, and indigo bunting. A few birds desert the nest or cover the eggs with a new nest, but most hatch the young cowbirds and rear them with their own.

Phoebe

Old creek bridges are the places to watch for this early bird, for phoebes love to build their nests on the supporting beams beneath these structures and are on hand early to stake their claims. They also build in niches


TURKEY VULTURE
FOX SPARROW
KILLDEER
WHITE-THROATED SPARROW
MALE
PURPLE FINCH
FEMALE
NED SMITH

in rocky cliffs, under porch eaves, and in outbuildings. The nest is a deep cup of mud and mosses lined with soft grasses; the eggs are plain white.

The bird itself is about the size of an English sparrow with a typical flycatcher bill. It is grayish-brown above, darkest on the head, and has neither a light eye ring nor conspicuous wing bars like some other flycatchers. The underside is whitish washed with brownish gray on the breast and sides. Sitting on its favorite twig watching for passing insects it frequently gives its tail a flip and utters its quick "Phoe-be." Then launching out over the creek it snatches up a stone-fly with an audible snap and returns to its streamside perch.

Turkey Vulture

On the ground, the turkey vulture is a singularly ugly bird. Its unlovely head and neck are naked and red, and the rest of its ungainly body is clothed in coarse, sooty brown plumage. But few birds are more magnificent in flight. Great pinions tilted upward, the tips spread like fingers, the huge bird circles tirelessly on updrafts and thermals, seldom finding it necessary to so much as dip a wing. From high in the blue its sharp eyes can discern the carcasses of birds and animals upon which it feeds, or the downward spiral of another distant vulture that may have sighted a meal.

Like many of our early, early birds turkey vultures winter in southeastern Pennsylvania in limited numbers and spread throughout the state as winter shows signs of weakening. In late April or early May they lay their eggs on the ground beneath rocks or bushes or in hollow logs or stumps.

Killdeer

Few sounds are as welcome to the winter-weary outdoorsman as the piercing "Killdee, killdee, killdee" of this large plover as he courses erratically over the lowland meadows, or runs about on toothpick legs, bows



stiffly, and runs some more. He is a strikingly patterned bird—earth-brown above with a white forehead, white stripe over the eye, and a white collar encircling the neck. The underparts, too, are white, the breast crossed by two black bands. In flight the bright brownish-orange of the rump and tail is conspicuous.

The killdeer nests throughout the nonwooded sections of Pennsylvania. A depression, unlined or scantily lined, in short grass or on perfectly bare ground serves as a nest for the four heavily spotted eggs. The young are precocial, usually leaving the nest the day after hatching.

Fox Sparrow

Few birds are more dedicated to their work than the fox sparrow. You can listen to a flock of twenty scratching energetically in the leaves and not hear a peep out of them—until they discover you, that is. Then, with a whirr of wings they fly en masse to the bush tops, telling you with excited staccato remarks how annoyed they are with your presence.

You can see at a glance these are no "ordinary" sparrows. They are large, more than an inch longer than the English sparrow. Their upperparts are reddish-brown, noticeably brighter on the rump and tail. The sides of the head and neck are gray except for



the reddish-brown cheek patch, and the underparts are white, heavily streaked with reddish-brown.

Fox sparrows do not nest in Pennsylvania, but they are among our earliest migrants.

White-throated Sparrow

Here's another scratcher, the pretty white-throat. At the tag end of winter he's still rather dull in color, but in a few weeks his plumage will be breath-taking. Rich brown and black wings and upperparts will be set off by a white crown broadly streaked with black. A spot before the eye will turn bright yellow and a spotless white bib will adorn the pearly gray underparts.

If you're lucky you'll hear his plaintive song, an incredibly sweet but undeniably sad "Old Sam Peabody, Peabody, Peabody."

The white-throat is known to nest in northern Pennsylvania, and to winter in sheltered thickets and swamps in the warmer parts of the state, but to most Keystone staters he is familiar only during migration.

Purple Finch

Folks who maintain feeding stations have discovered that a few of these pretty finches remain with us during the winter months, but it's in early spring that they show up in appreciable numbers. The females are sparrowy-looking birds — brown streaked with black above, and white streaked with sooty brown below. The males, on the other hand, are uniquely colored. Their upperparts are rose-pink streaked with brown or dusky. The rump is a clear rose-pink, the wings and tail chiefly dusky brown. The throat and breast are paler rose-pink, and the rest of the underparts are whitish, softly streaked with pale ashy-pink on the sides.

Aside from feeding station handouts the finch's favorite foods are the buds of certain trees and shrubs and later, the early-maturing seeds of the elms. As the days become longer the males spend an increasing amount of time singing, and their lengthy, intricate song is a treat to human ears. Lucky the northerners who have them for neighbors throughout the nesting season.

ANSWERS TO QUESTIONS

1. No, the males arrive several weeks ahead of the females.
2. The cowbird's.
3. Carrion.
4. The rusty blackbird, the purple grackle, and the bronzed grackle —take your pick.
5. The cowbird builds no nest, but lays it eggs in the nests of other birds.
6. The white-throated sparrow.
7. They place their nests on beams under the spans.
8. Their long tails.

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PGC Photo by George H. Harrison

GOVERNOR'S SIGNATURE on the official proclamation for Wildlife Week, March 18-24, was witnessed by these state conservation officials. Left to right, seated: Seth Myers, State Chairman of National Wildlife Week; Governor David L. Lawrence; and Everett G. Henderson, President of the Pennsylvania Federation of Sportsmen's Clubs. Standing: Ivan McKeever, State Soil Conservationist; Albert M. Day, Executive Director of the Pennsylvania Fish Commission; Henry Werner, Vice Pres. of the Pa. Fed. of Sportsmen's Clubs; Oscar Becker, Past Pres. of the Pa. Fed. of Sportsmen's Clubs; Dr. Charles Wilbar, Secretary of Health; James F. G. Sheffer, Alt. Del. Nat. Wildlife Fed.; M. J. Golden, Executive Director, Pennsylvania Game Commission; and Maurice Goddard, Secretary of Forests and Waters.

Governor Proclaims Wildlife Week March 18-24, 1962

WHEREAS, The people of Pennsylvania are dependent upon the natural resources—soils, water, forests, grasslands, minerals and wildlife—to sustain life and contribute to the commerce, agriculture and recreation of future citizens of the State of Pennsylvania; and

WHEREAS, There is growing concern about the future continental waterfowl population and especially the destruction and drainage of wetlands which provide nesting areas for waterfowl and other wildlife; and

WHEREAS, These natural water storage areas may be of infinite value to man in the conservation of water resources for an expanding population; and

WHEREAS, The week of March 18-24, 1962, will be observed across the Nation as National Wildlife Week, this being a time set aside to alert all the citizens of the Nation to the need for wise and proper use of all the natural resources;

NOW, THEREFORE, I, David L. Lawrence, Governor of the Commonwealth of Pennsylvania. do hereby proclaim March 18-24, 1962, as WILDLIFE WEEK in Pennsylvania.

GIVEN under my hand and the Great Seal of the State, at the City of Harrisburg, this thirtieth day of January, in the year of our Lord one thousand nine hundred and sixty-two, and of the Commonwealth the one hundred and eighty-sixth.

DAVID L. LAWRENCE
Governor

A Waterfowl Management Tool . . .

Pymatuning's Bands of Knowledge

By Ray M. Sickles
Waterfowl Management Agent

PENNSYLVANIA can neither be classified as an important production area nor wintering grounds for waterfowl. However, thousands of ducks and geese DO migrate through our state and, therefore, a management program to create habitat and attract waterfowl is necessary to improve waterfowl hunting in the Keystone State.

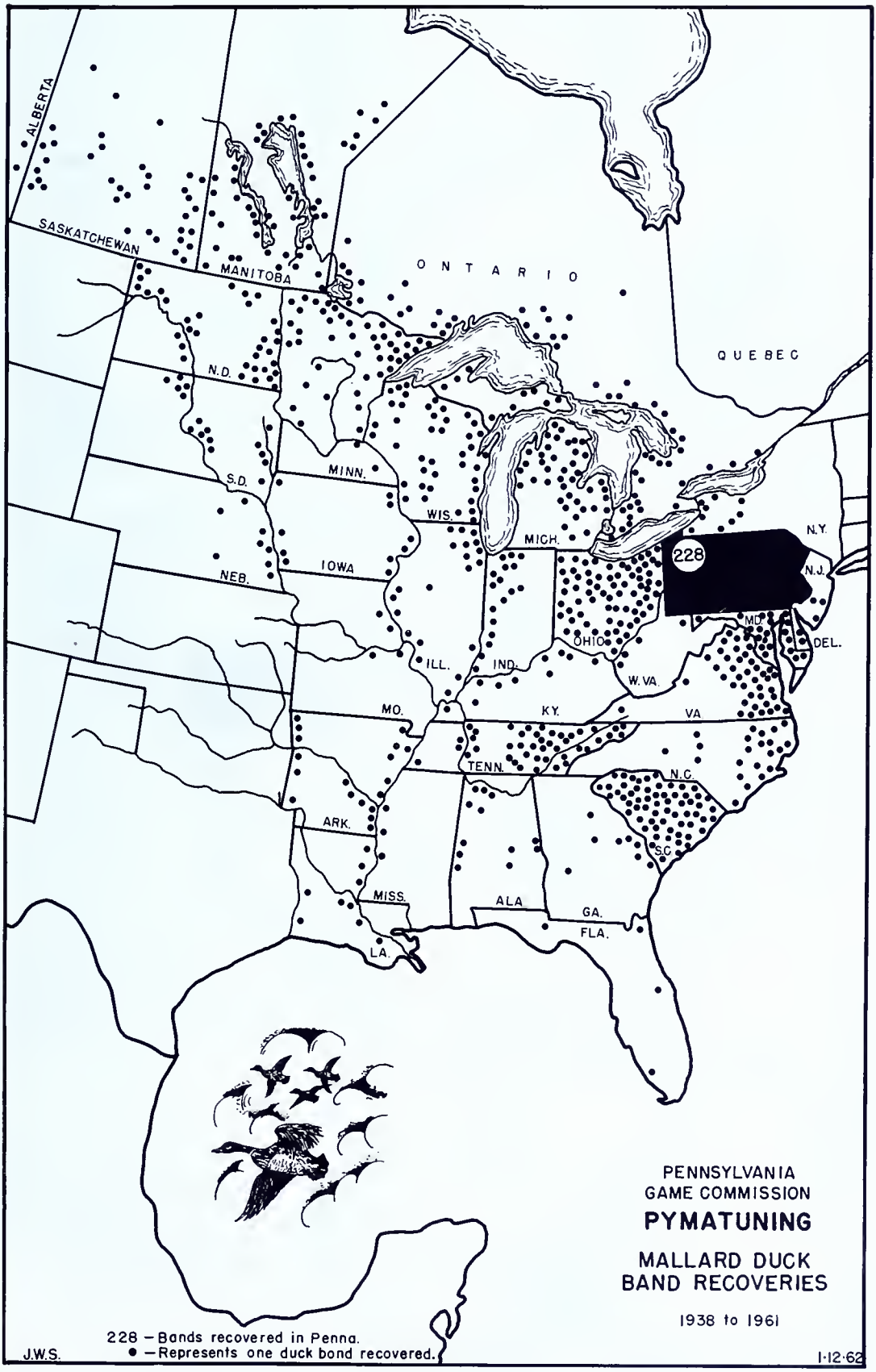
The records of 23 years of waterfowl banding at the waterfowl management area on Pymatuning Reservoir have contributed much valuable information about the waterfowl using this area. These records embrace a total of 1,374 mallard and black duck and Canada goose band returns.

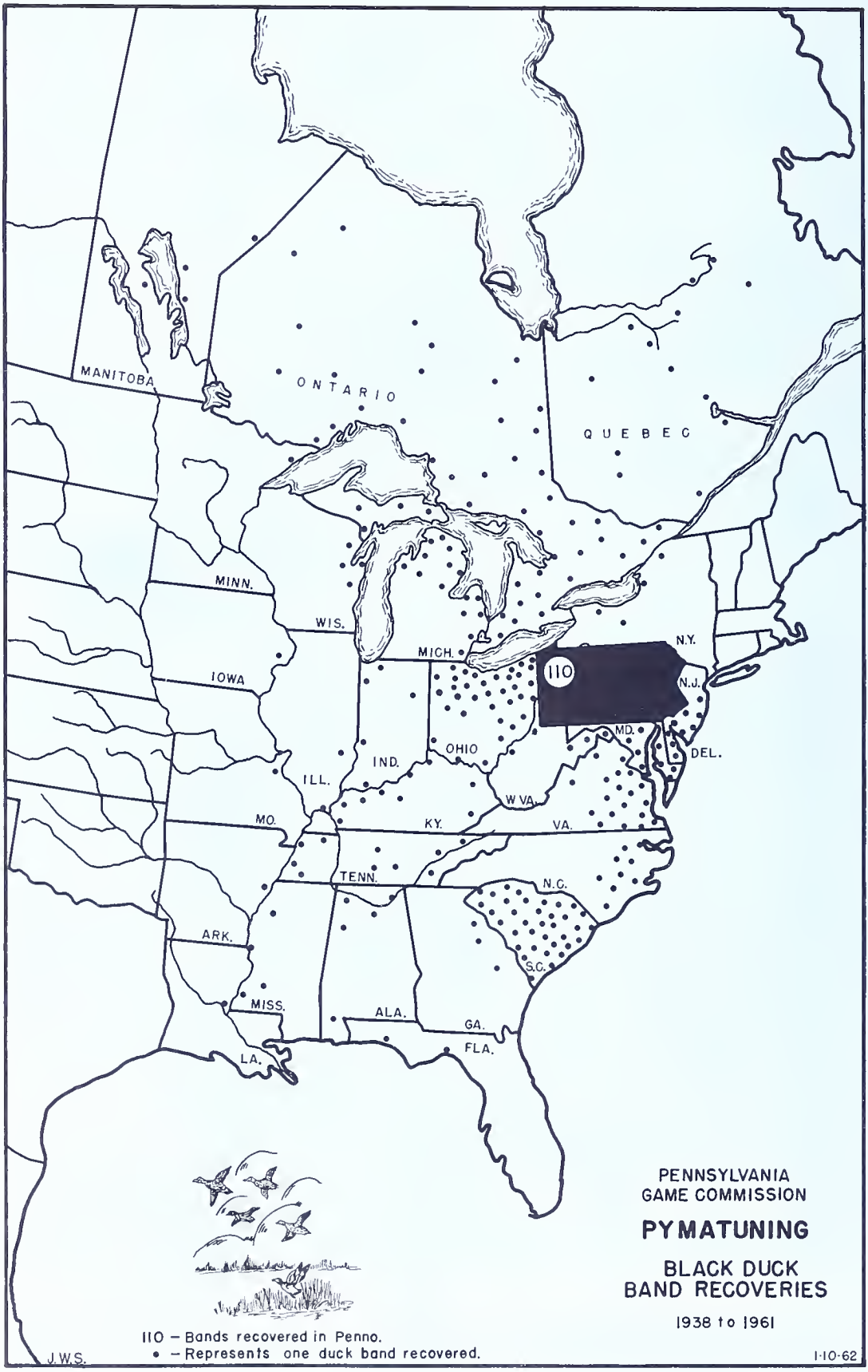
Band returns indicate the production areas, the routes followed in migration, the wintering areas, and the location of the harvest pin-pointed when the return is final. Examination of the trapped birds provides information on sex ratio, juvenile versus adult ratio and the physical condition of the birds including any indication of disease.



Photo by Hal H. Harrison

BANDING IN THE LATE '40's at Pymatuning was supervised by Carl Warren, left. Chuck Strohm bands a drake mallard as Warren records the band number and other data in 1949.


ALBERTA
SASKATCHEWAN
MANITOBA
ONTARIO
QUEBEC
N.D.
S.D.
MINN.
WIS.
MICH.
N.Y.
228
N.J.
NEB.
IOWA
MD.
DEL.
OHIO
ILL.
IND.
W.VA.
MO.
KY.
VA
TENN.
N.C.
ARK.
S.C.
MISS.
ALA
GA.
FLA.
LA.
PENNSYLVANIA
GAME COMMISSION
PYMATUNING
MALLARD DUCK
BAND RECOVERIES
1938 to 1961
228 — Bands recovered in Penna.
● — Represents one duck band recovered.
J.W.S.
1-12-62


MANITOBA
ONTARIO
QUEBEC
MINN.
WIS.
MICH.
N.Y.
110
N.J.
IOWA
MD.
DEL.
IND.
OHIO
ILL.
W VA.
MO.
KY.
VA.
TENN.
N.C.
ARK.
S.C.
MISS.
ALA.
GA.
FLA.
LA.
PENNSYLVANIA
GAME COMMISSION
PYMATUNING
BLACK DUCK
BAND RECOVERIES
1938 to 1961
110 – Bands recovered in Penno.
• – Represents one duck band recovered.
J.W.S.
1-10-62

All wild waterfowl banders operate under a federal permit and are required to report to the Fish and Wildlife Service the serial number of each band used, species of waterfowl, sex, whether adult or immature, date banded, location banded, type of trap, and type of bait used. In this manner the Bird Banding Section of the Fish and Wildlife Service is able to maintain a complete record of all bands issued to each bander and an additional accounting of the bands he uses. The banding records are reported, compiled and maintained in one central file office (now located at the Patuxent Research Refuge, Laurel, Md.). There they are protected and available for official use.

First Operation in 1938

Wild ducks were first trapped and banded at Pymatuning in 1938. Dr. John (Frosty) Anderson, presently manager of the famous Winous Point Gun Club of the Sandusky Marshes in Ohio, was at that time a wildlife student at Ohio State University. He did his banding at Pymatuning in 1938 and 1939 as part of his wildlife training. A colony type trap with a funnel entrance was constructed of chicken wire and placed in shallow water. Shelled corn was used to bait the ducks into the trap. After a catch was made, this type of trap required that the operator crawl inside and catch the trapped ducks one by one in the shallow water. After banding, the ducks were released, none the worse from the trapping operation.

Warren's Waterfowl Survey

In 1948 and 1949 the banding was done under the direction of Carl Warren as a part of his Waterfowl Survey for those two years. Carl used the same type of trap as Anderson but improved it by using spot welded wire for the sides and the funnel of the trap. He also used a catch box into which he drove the birds to facilitate catching. But each bird still had to be taken out of the water in order to place a band on the wet leg. Many times during cold weather this banding became a strenuous job because the metal band would freeze to the cold, wet fingers of the operator before it could be placed on the leg of the duck.

Latimer in Charge

In 1952 Bob Latimer, Waterfowl Management Agent, was placed in charge of all waterfowl banding in the state. Bob directed the construction of a new funnel trap that he observed in use in Saskatchewan. This trap simplified the handling of the birds and enabled the operator to work in more comfort. The birds were driven from the water into a catch pen on land. Thus, the birds were reasonably dry when handled.

The author assisted in all these trapping and banding operations at Pymatuning and did some other banding and recording during the interim years.

The following is a summary of the records of banding at Pymatuning and all returns from mallard and black ducks and Canada geese from 1938 to March 1, 1961. Other species were banded but not in sufficient numbers to furnish substantial information.

PYMATUNING BANDING DATA

DUCKS BANDED AT PYMATUNING

Year	*Blacks*	*Mallards*
1938	141	74
1939	139	103
1948	255	354
1949	436	311
1950	250	650
1951	44	76
1952	231	1,723
1953	416	1,146
1954	437	1,425
1956	60	182
	2,409	6,044

Total Mallards Banded	6,044
Total Mallard Returns	965
Per Cent Mallard Returns	15.9%
Total Blacks Banded	2,409
Total Black Returns	362
Per Cent Black Returns	15%

CANADA GEESE BANDED AT PYMATUNING

Year	*No.*
1950	12
1951	1
1952	101
1954	85
	199

Total Geese Banded	199
No. of Band Returns (including 6 retraps)	47
Per Cent of Band Returns	23.8%

PYMATUNING BANDING RETURNS

Province or State	*Mallards*	*Black*	*Canada Geese*
Pennsylvania	228	110	20
Ohio	71	35	0
Ontario	64	46	12
S. Carolina	62	36	0
Manitoba	47	4	0
Minnesota	46	1	0
Tennessee	43	10	0
Michigan	41	15	1
Wisconsin	41	4	0
Virginia	41	19	5
Saskatchewan	36	0	0
N. Dakota	34	0	0
Illinois	20	2	2
N. Carolina	22	9	4
Maryland	20	8	2
Arkansas	18	1	0
Indiana	17	5	1
S. Dakota	16	0	0
Alabama	12	5	0
Kentucky	10	9	0
Iowa	10	1	0
Louisiana	9	1	0
New York	9	4	0
Nebraska	8	0	0
Georgia	8	3	0
W. Virginia	4	5	0
Missouri	4	1	0
Florida	4	2	0
Mississippi	3	4	0
New Jersey	3	6	0
Delaware	2	3	0
Alberta	2	0	0
Quebec	0	13	0
	965	362	47

Analysis of Banding Data

The returns on mallard ducks banded at Pymatuning indicate very clearly that Pymatuning mallards are produced primarily in the prairie pothole country of southern Manitoba, southern Saskatchewan, North and South Dakota and western Minnesota. The records show that these birds migrate in an easterly direction to the Great Lakes and follow this course to Pymatuning. From Pymatuning the mallards seem to disperse in three general directions. A majority of the birds go directly to South Carolina, Tennessee and Kentucky to winter. Minor flights follow the Ohio River back to the Mississippi Flyway, and approximately one-fourth of the mallards continue east to the Atlantic Coastal areas of Maryland, Virginia and North Carolina.

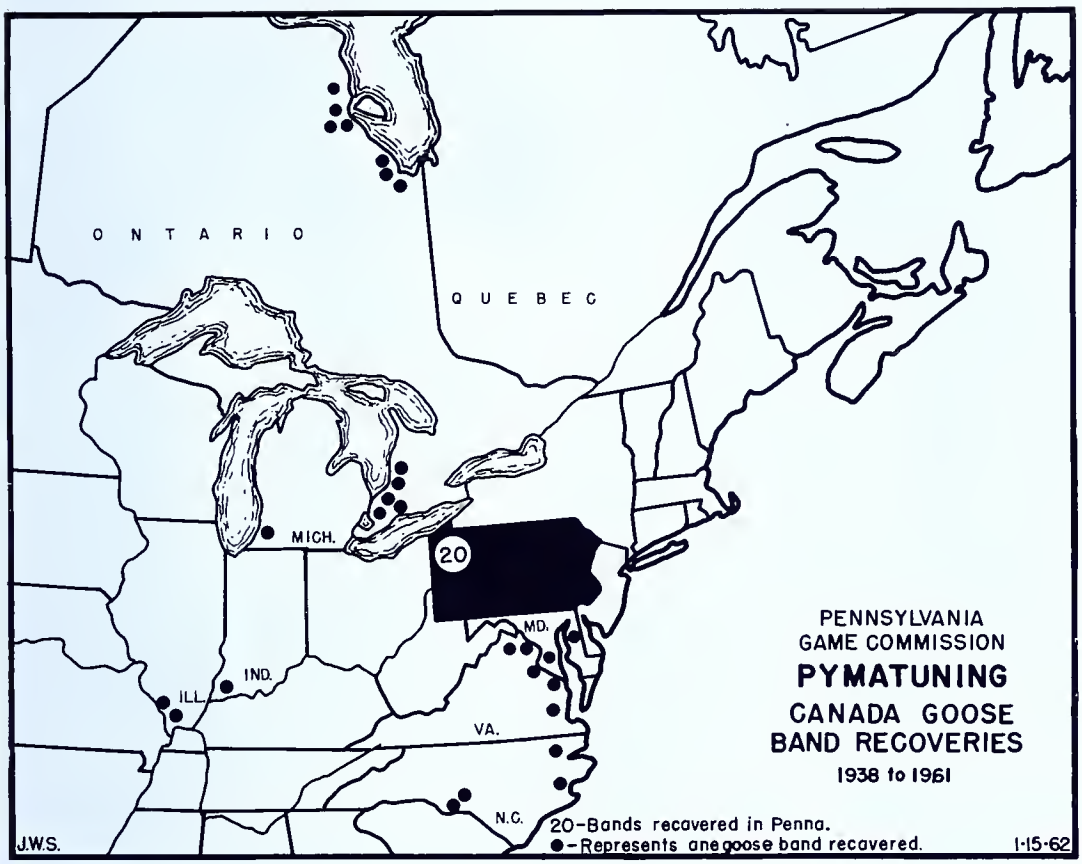
Black Duck Returns

The returns of the black ducks show that the wooded lake country of Ontario and Quebec is the main nesting area of the blacks using Pymatuning. A few do nest in the northern wooded section of Saskatchewan and Manitoba. These birds show a decided southern migration to the Great Lakes marshes before arriving at Pymatuning. The dispersal from Pymatuning to the wintering grounds is fairly consistent with the pattern of the mallards. Although there are more birds which go to the eastern shore of Maryland and Virginia and less to the Tennessee Valley Lakes, South Carolina gets the majority of the wintering birds.

Definite Connection

For the Pymatuning black and mallard ducks, there is a very definite connection between the Lake Erie Marshes, near Sandusky, and the plantations that are managed for waterfowl in the vicinity of Georgetown County, S. C. In addition to having the greatest concentration of band returns at these two spots, there have been several occasions when birds were shot by hunters at these two locations within three days after banding at Pymatuning. I feel that both areas get direct and nonstop flights from Pymatuning.

Of the 6,044 mallards banded at Pymatuning, there were 182 shot in



Pennsylvania. An additional 36 returns were from birds retrapped and previously banded there. Of the 2,409 black ducks banded there, 96 birds were shot by hunters in Pennsylvania and 14 additional returns from retraps. From the period of 1938 to 1960 only 3 per cent of the banded mallards and 4 per cent of the banded blacks were harvested by Pennsylvania hunters.

Although the banding of wild Canada geese at Pymatuning has been on a limited scale, the returns indicate that the production area for these birds is the west shore of James Bay from the Moose River north to Attawapiskat River in northern Canada. This coincides with the report of Hanson and Smith, wildlife biologists who studied the Hudson Bay-James Bay Canada Goose populations. They found that both the Mississippi Valley geese and the Southeast population segments nested in this same general region. Both segments migrate south to the Jack Miner Sanctuary in Ontario. Here the southeast segment migrates southeast over eastern Ohio and western Pennsylvania to the interior of the Atlantic Coastal States. Returns from the Horseshoe Lake region and from goose management areas in Indiana and Michigan indicate that there is an interchange and overlapping of the Mississippi Valley geese with the southeast geese at Pymatuning.

Additional banding of Canada geese will be done at Pymatuning to obtain more definite information on migration routes, wintering grounds, production areas and populations of different segments for use in the goose management program. Waterfowl hunters can cooperate in the management program for waterfowl by reporting the banded birds they bag.



BEST CROW DECOY is a live or papier-mache model of the great horned owl. The great horned is the crow's natural enemy and the appearance of an owl in the open will usually bring in crows from all over the area.

GREATEST GAME ON EARTH

By Don Shiner

Photos by the Author

MY GUN barrel gets the warmest during the late winter, the normally dull period season. The duck migration has passed months ago. The gunning season for snowshoes has closed. It's still too many weeks away to be thinking of trout fishing, so the only things to help pass the dreary days are a couple of good outdoor books, the copies of GAME NEWS that I've been saving, or some crow calling. Readin' is fine when snowbound, but on clear, fairly warm days, there is unusual sport to be had gun-

ning for the black birds. Like I said, right about now my gun barrel gets the warmest.

Crows are bunched in big flocks at this time and remain so until they pair off for spring mating. Find where they're congregated; set out a couple of decoys; build a "leak proof" blind; blast a couple of notes on the caller and you're in crow business. More mornings than one I've blasted a box of shot shells at those crazy, mixed-up black blobs bailing and screaming at my dusty paper owl. Ten minutes of steady loading and pumping shells into the air can make any hunter think it's the greatest game on earth!

He's a Smart Bird

But it's not easy. Crows are exceptionally smart birds, with as high an IQ as you can find in birddom. Let a lone sentinel spot you entering a field or patch of brush and it opens up on its loud speaker to blare out a warning to every bird dipped in black paint in that area. Smart crows won't come near that spot for hours. Or just try pussyfootin' toward a flock feeding in a freshly manured field or on dead game near a highway. Before you get within rifle range, the cagey crows flap toward some far away spot and wait until you have cleared the coast before swooping back.

Find Their Roost

However smart they are, there are ways of outsmarting them. First find where they're roosting, or the fly routes they use during the day. Crows may range 20 miles or more from their roosting site, leaving roost at daybreak and returning late afternoon. They usually form a fly route along a ridge searching for food along the way. Sometimes it's a river or a sizable creek, or maybe a chain of open fields between patches of woods. You can easily spot them by spending a morning driving along the country roads. If you've noticed on one or more occasions that they are in the same vicinity, you've found their winter hangout.

Next thing is to construct a blind. Cut some hemlock boughs and bunch them around the base of a thick pine tree and crawl inside. If there's snow on the ground, kneel down beside a stone row and pull a white sheet over you. An old wagon left in the field offers good cover. Or bunch a group of corn shocks together with room inside for you to maneuver a gun.

The main thing is to fashion a blind so you're hidden from the sharp eyes of the crows. Make the blind as "leak proof" as possible.

Then fasten a couple of papier-mache crow decoys on sticks. Place these in some nearby tree, near a big horned owl decoy. The big owl is the crow's natural enemy and whenever one is found, crows dive, peck and worry it out of the area. Some hunters trap a live owl, by setting a baited trap on top of a high pole. A weak spring trap seldom inflicts injury to the bird. The owl is then penned, later leg roped and tied to a pole during the hunt. The factory-made papier-mache owls also serve the purpose.

Place Decoys in View

Place these decoys in back of your blind or to one side, but in plain view of incoming birds. Then climb into the blind. Load the shotgun and begin blasting a series of fighting calls into the air. Remember, if you can hear crows calling in the distance, they are also within hearing range of you. Keep up a steady chatter of challenging, frenzy, fighting calls until a couple of birds appear and spot your decoy set up.

Don't Shoot Lone Birds

If one or two lone birds angle in from the side, spot the owl then streak off, don't attempt to knock them out of the air. Chances are the gang has sent in a couple of sneakers to find out what your cawing fracas is about. Give them a chance to go back, report and bring the entire flock high-balling in for the kill.

Keep the calls fighting mad as the



FIRST LOCATE THE FLOCKS, then sneak into the area around daybreak. Post the owl in a clearing, along a fence row or high over low growing brush so that incoming crows can easily spot the decoys.

flock bails into range. Then grab the shotgun and blaze away. Fast shooting only disturbs them further and when they see a few of their kind folding wings and diving down to earth, they set the air waves trembling with even more frenzied cawing.

Two hunters in a blind, or in two blinds spotted closely, both within good shooting range of the decoys are ideal setups. One hunter can empty his gun at the milling, whirling

BUILD A BLIND by cutting hemlock boughs and clump them around the base of a pine tree. Some hunters wear clothing that blends in with the shrubs and trees. A white sheet draped over your body serves the same purpose when there is deep snow on the ground.



birds as the other keeps calling. Switching about lets each refill his gun and shoot until the crows wise up to the barrage of flack and fall back toward some safety ridge. Sometimes they will return for a couple of passes at the silent owl and swoop down to peck his eyes or neck.

The fast action can last five minutes or twenty, depending on how the operation is carried out. And while it is useless to hang around that blind hoping for another crack at the flock that day, it pays dividends to travel a half mile or so to another spot. Frequently the birds can be lured there and more knocked out of the winter sky.

The dead crows killed at the first location can be used as decoys at the next blind. Rope their legs and toss them into the tree limbs. Stick a couple on poles to help dot the ground with black specks for airborne birds to see. But they will seldom decoy to crows dead for days. They hate the odor of their kind decaying and bypass the area by as much as a quarter mile. Gather the bagged birds and cover them or use them as feed for the captured owl.

Crow hunting is drastically different from turkey hunting or gunning for a buck. In both cases you rarely get more than one or two shots at the game. But with crows, you can frequently use up a box or more of shells within a couple of minutes. It's the hottest shooting I know and it's a rare pleasure to reach down and grasp the red hot barrel on a cold, frosty day!

Late winter is not a dull season when you level the gun sights on this bird clan. In fact, get interested in this racket and you'll discover there's plenty of action, thrill and sport to crows, comparable to a day of good dry fly trouting, or chasing Chinese pheasants in cornfields. But just don't underestimate the common sense and intelligence packed in that bundle of black feathers. It takes an alert hunter to gun down a bunch of crows and it's sure fun trying!



Photo by Dur Morton, Nat. Wildlife Fed.

LITERATURE ON CONSERVATION is available to those persons who know where to look and ask. Here some children are using reference material to study nature and the outdoors.

Materials Are Available for Those Who Know Where to Look . . .

Conservation Education Tools

By Andy Golish

AFTER more than a century of trying to make Americans aware of our rapid depletion and exploitation of natural resources, the wildlife conservation movement finally won national recognition. The next phase was a successful appeal for the time and talent of educators.

When we say educators, we don't specifically refer to teachers. Educators also include civic leaders, directors of youth or adult groups, and fathers and mothers as well. In the final analysis, education is solely a process of imparting knowledge. It matters little whether this process takes place in the classroom, home, afield, or astream.

Educators throughout the land proved receptive to the call but admitted an urgent need for material. Since a vast amount of excellent conservation literature was available, it seemed that a truly effective conserva-

tion-education program would finally get underway. The plan worked—but not to the extent that it should have! The problem as it still stands: **Too many interested persons do not know what material is available or where it can be acquired.** The cause of conservation may profit greatly if we can fill this existing gap of distribution.

It would be futile to try to list all sources of information in one magazine article. The following few organizations are representative of the many fine groups concerned with conservation. Perhaps this source and procedure suggestions will serve in getting you started in the right direction.

First and foremost, we wish to mention the National Wildlife Federation. This nonprofit organization, representing some two million sportsmen-conservationists, has been a leader in furthering programs of wildlife conservation for twenty-five years. The many activities and publications of the NWF have won them "first place" in the role of conservation public service. Their *Conservation Directory* is positively a must for anyone interested in conservation-education. I personally have a "ton" of conservation reference material and still regard their book as the most valuable written tool available. This publication, which lists thousands of conservation organizations and officials, sells for a mere dollar. I trust your first act will be that of contacting the National Wildlife Federation, 1412 16th Street, N.W., Washington 6, D. C.

NRA for Shooting Safety

The National Rifle Association is another organization whose services are worth seeking. Since 1871, this group has fought to preserve your right to own guns. Besides guarding this great American heritage, their work in promoting shooting safety is positively without peer. If you are wondering what shooting safety has to do with conservation, I aim this question at you: What is more worthy



PENNSYLVANIA SCHOOL CHILDREN study many aspects of conservation and our natural and wildlife resources. Literature for teachers is available in great quantities if the teacher knows where to look.

of being conserved than human lives? Your group would do well to learn about the extensive program of the NRA. The National Rifle Association is located at 1600 Rhode Island Avenue, Washington 6, D. C.

Conservation Handbook

Several years ago the National Association of Biology Teachers, in conjunction with the American Nature Association, set out to accomplish one of the most ambitious conservation undertakings in American education. The net result was a publication of a conservation book that's as basic as water: *Handbook for Teaching of Conservation and Resource-Use,* edited by Richard L. Weaver.

The *Conservation Handbook,* as it's commonly called, is a 502-page compilation of some of the outstanding conservation projects and teaching techniques used throughout the United States. It also includes a bibliography of material extensive enough to satisfy the enthusiasm of the most devoted conservationist.

The bibliography itself has also been released as a reprint under the title *Materials for Teaching Conservation and Resource-Use.*

The handbook has a list price of $4.50 and the bibliography reprint sells for a meager thirty-five cents. Both publications can be obtained from the Interstate Printers and Publishers, 19-27 North Jackson Street, Danville, Ill.

Don't overlook the educational impact you can deliver via films and



"TEACH THEM that outdoor recreation should not be hawked and peddled on the street corner; and that our wildlife should not be weighed and sold by the pound. . . ."

filmstrips. It won't take you long to assemble an extensive working index of conservation pictures. You'll never realize just how bad most television programs really are until you compare them with some of the conservation movies available. Many conservation organizations put Hollywood to shame at their own game.

An excellent book, *A Critical Index of Films and Filmstrips in Conservation*, would give you a head start toward the use of celluloids in teaching conservation. This index, along with numerous other publications, can be obtained from the Conservation Foundation, 30 East 40th Street, New York City, N. Y.

Federal Films

Typical of many governmental motion picture services is a project run by the Department of Agriculture. This department maintains many area film rental libraries. Located in every state of the Union, these libraries rent films for very minimal fees. You can learn of the library nearest you by checking with the U. S. Department of Agriculture, Motion Picture Service, Washington 25, D. C.

A variety of other agencies also distributes motion pictures related to field and stream activities. While these films are essentially produced for sportsmen, the principles of conservation are naturally embodied throughout. A folder listing free films for sportsmen can be obtained from the Sportsman's Service Bureau, 250 East 43rd Street, New York 17, N. Y.

The procedure one follows in dealing with most conservation groups is basically the same. It's mainly a matter of asking for **a list of publications.** It may also help if you indicate the manner in which you intend to use the material.

Send Everything

A pet peeve of many professional conservationists is when somebody writes: "Send me all the information you have on conservation." Naturally a request such as that is harder than impossible to fulfill. Acts of that nature have driven more than one professional into considering other higher paying fields of endeavor.

Most of the publications you order from various agencies are free or inexpensive to you. They do, however, cost plenty to produce. For this reason you should request only those you can actually use. A boy once told me: "Paper is trees and shouldn't ought to be wasted." Perhaps his statement will never get him the Nobel Prize; yet by the same token, I've never heard anything more practical.

We can't underestimate the influence our youth will eventually extend on the use of our natural resources. Many times they are told about being the "citizens" of tomorrow. The truth of the matter is that they are the citizens of today! They are the leaders of tomorrow and we must train them accordingly.

Wise Words

I can't improve upon the wise woods and water words of Ernest Swift, who said: "Teach him . . . that outdoor recreation should not be hawked and peddled on the street corner; and that our wildlife should not be weighed and sold by the pound. Teach him that bread comes from the soil and not from a store; teach him that fat cities do not thrive on a lean countryside."

As for me, I'm genuinely certain about one thing during these uncertain times—kids are here to stay! And more than that, they are the mainstay of conservation.



MY PARTNER and her first week's catch.

The Tender Trapper

By Bill Bannak

Photos by the Author

EVER since the 1959-60 license year Pennsylvania has had a split season on muskrats. It seems like every year the second half of the season brings the problem of high water one day and low the next, at least that's the way it's been around Bucks County. Of course, this brings up the question of where and how to set the traps to keep them under water and effective without resetting the line every time the water changes.

The second half of the muskrat season I acquired a new partner. I figured, since my partner was green, I should start at the beginning and show her how to set a trap. I explained how it was done, step by step, and then gave my partner a trap and told her to try it. Well, there she was crouched over the trap with one foot on the chain, the other foot on the spring trying to spread open the jaws of that trap. What made it even more difficult was she was doing this with her eyes half closed expecting the trap to spring shut on her fingers at any second. It was a real struggle and quite a unique process, but finally we got the trap set.

The next thing was to explain to my partner how my new set worked. I told her that this time of year the best set was an edge set. The first thing she should look for is a natural shelf along the edge of the stream where there are muskrat tracks. If she couldn't find a shelf she should make one with her boot so that the trap is about an inch under water. I told her to make sure she put the stake in the middle of the stream because, since the trap is almost out of water, the animal has a greater chance of escape. I explained that if the water level of the stream changed due to rain or melted snow, all you would have to do is go along the next

day and push the traps either up or down on the bank.

The next question my partner asked was why not the hole set. I told her that with the changing stream conditions the rats might swim over the traps or the traps might be out of water the next day if the stream drops.

With these thoughts in mind I sent my new partner off downstream to make her sets and I headed upstream to make my edge sets. After about an hour I started downstream to see the sets my partner had made. Yep, you guessed it! Every set was a hole set—they were easier. I figured that the next morning when we checked the line and I caught a few rats, it would teach her a lesson.

We set the alarm and turned in. At five-thirty the alarm went off. I figured I'd have trouble getting my partner up, but to my surprise she was already dressed and ready to go. We arrived at the stream about daybreak and headed out to check our sets. I moved from set to set finding every one empty. I figured that this was just a bad day and I was even more positive my partner wouldn't catch anything. I had just finished checking my last set when I heard somebody splashing upstream all the way and what was in her hand, but a nice big rat.

Honest fellows, the edge set is better and it does work, but then again did you ever win with a woman, especially when your partner is your wife?



HER FIRST RAT was the hardest to skin out.

BOOK NOTES . . .

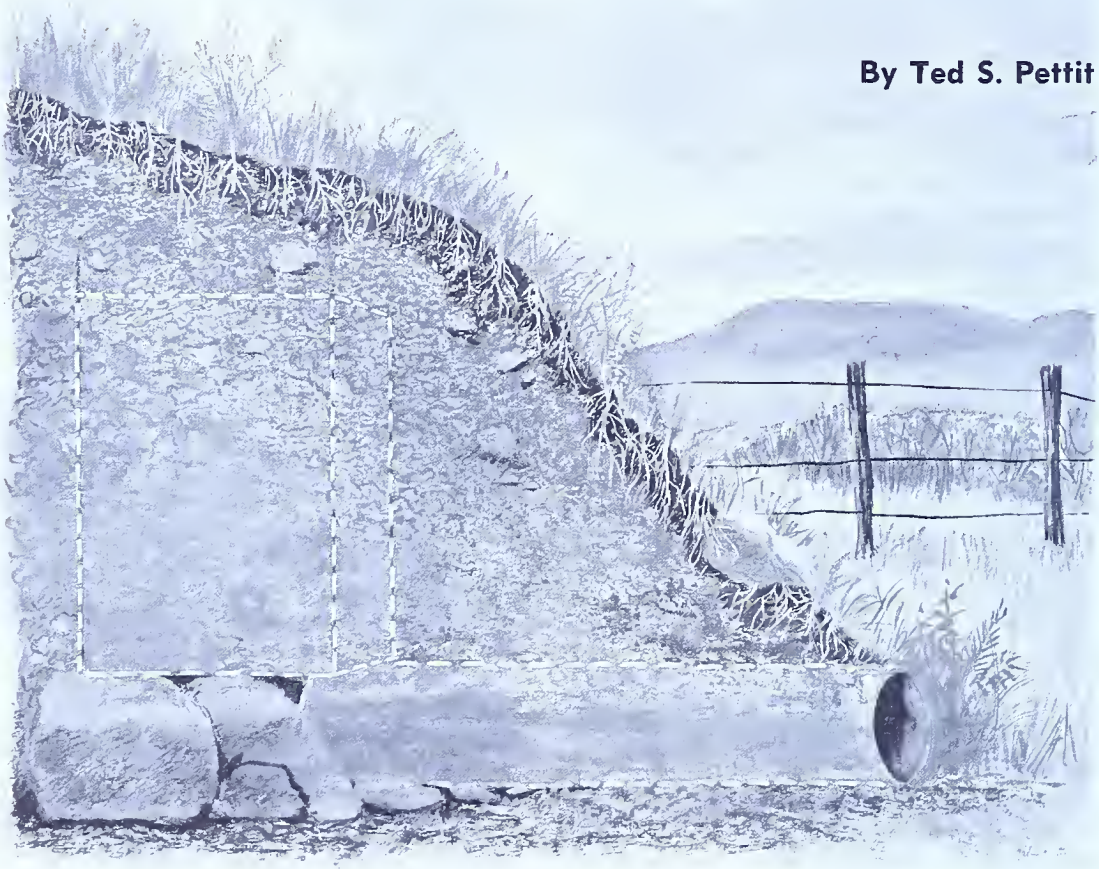
The Conservation Department of the Olin Mathieson Chemical Corporation has just published an excellent booklet titled "The White-tailed Deer." This is the third in a series of conservation publications and, like the previous two on cottontail rabbit and mallard duck, covers life history, management, and hunting of the species.

This 108-page booklet contains a wealth of excellent reference material and would make a fine addition to your library. Due to a limited press run and Olin Mathieson's distribution policy, it is doubtful that copies will be available for general distribution after April.

If you wish to have this booklet, you can obtain it free of charge by sending your individual request to: John Madson, Chief, Information Service, Conservation Department, Olin Mathiesson Chemical Corporation, East Alton, Ill.

Homes for Wildlife

By Ted S. Pettit



MAN-MADE HOUSES for cottontail rabbits can be constructed, too. Two lengths of six-inch drain tile or sewer pipe are needed. Dig a hole in the side of a hill and set a box or five-gallon can upside down on some rocks. Set tile in a dug trench with a slight bend and cover with soil.

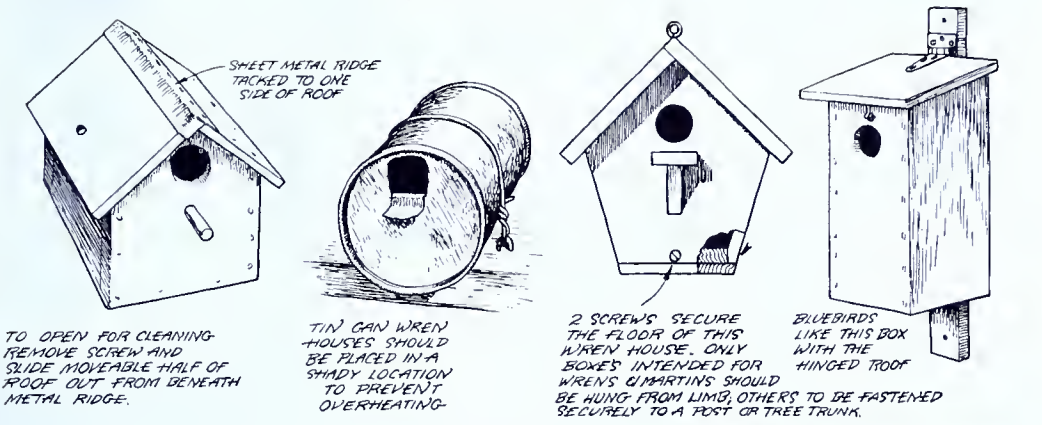
Outdoor Fun With a Future

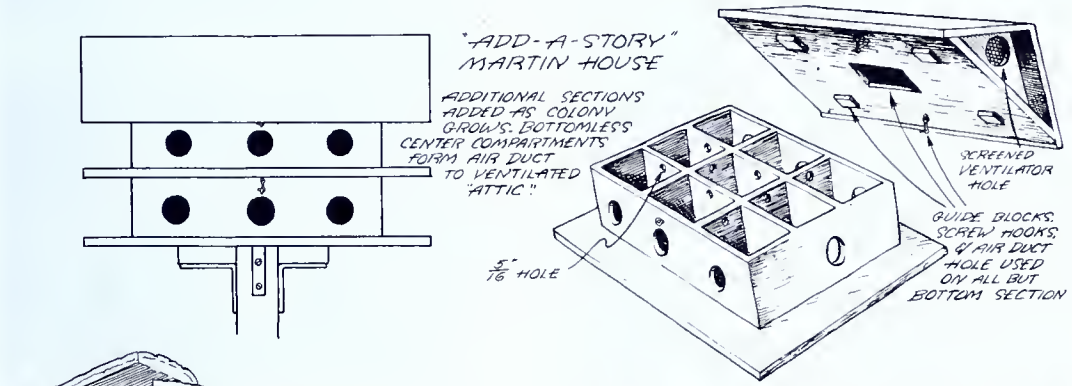
WITH many conservation projects you must wait a year or even several years to see the results of your work. But providing shelters of different kinds where animals may find nest or den sites can have short-term results. Work you do this month may easily result in the production of more animals of certain species before the end of May.

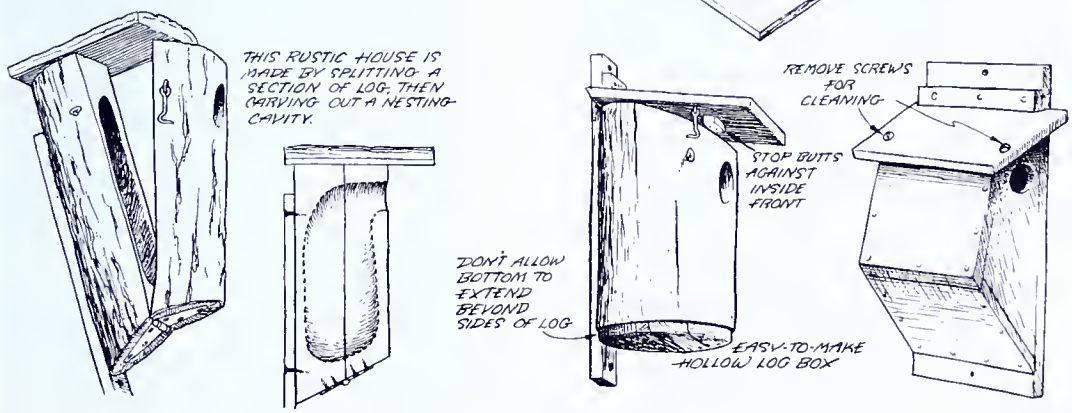
Birds of several species will nest in man-made boxes, and some rather spectacular results have been achieved with wood ducks, bluebirds, and tree swallows. A Scout troop in western New York State, several years ago, built and set out 120 bluebird houses along seven miles of rural roads. Ninety-six were used by bluebirds the first year.

A 4-H Club in Massachusetts built and set out fifty-eight tree swallow houses around a lake, and thirty-two were used the first year.

BIRD HOUSES





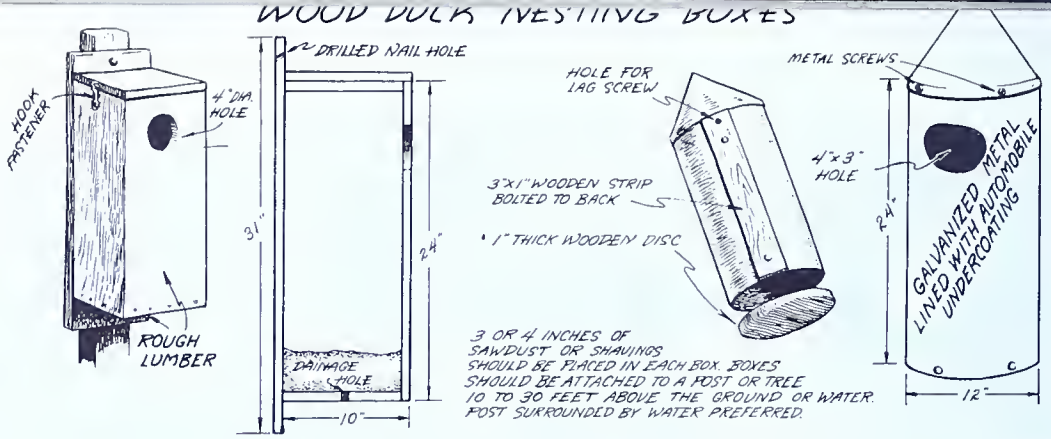


SPECIES	FLOOR OF CAVITY	DEPTH OF CAVITY	ENTRANCE ABOVE FLOOR	DIA. OF ENTRANCE
BLUEBIRD	5"x5"	8"	6"	1½"
CHICKADEE	4"x4"	8-10"	6-8"	1⅛"
TITMOUSE	4"x4"	8-10"	6-8"	1¼"
NUTHATCHES	4"x4"	8-10"	6-8"	1¼"
HOUSE WREN	4"x4"	6-8"	1-6"	⅞"
CAROLINA WREN	4"x4"	6-8"	1-6"	1⅛"
CRESTED FLYCATCHER	6"x6"	8-10"	6-8"	2"

SPECIES	FLOOR OF CAVITY	DEPTH OF CAVITY	ENTRANCE ABOVE FLOOR	DIA. OF ENTRANCE
FLICKER	7"x7"	16-18"	14-16"	2½"
RED-HEADED WOODPECKER	6"x6"	12-15"	9-12"	2"
DOWNY WOODPECKER	4"x4"	8-10"	6-8"	1¼"
PURPLE MARTIN	6"x6"	6"	1"	2½"
TREE SWALLOW	5"x5"	6"	1-5"	1½"
BARN OWL	10"x18"	15-18"	4"	6"
SPARROW HAWK	8"x8"	12-15"	9-12"	3"

Courtesy of the Virginia Commission of Game and Inland Fisheries

The shortage of den trees is best illustrated, probably, by the results of a wood duck project in the midwest a few years ago. Something over a hundred boxes were set out and all were occupied the first year—but not necessarily by wood ducks. Screech owls, flying squirrels, sparrow hawks, bees, deer mice and fox squirrels used most of the boxes, with scarcely 10



Courtesy of the Virginia Commission of Game and Inland Fisheries

per cent being used by wood ducks. But this does indicate a need for artificial cavities to replace hollow trees that are cut down or blown down.

The illustrations on these pages show typical songbird box designs, and the chart gives specifications for size of box, diameter of hole and height of the box.

House wren, chickadee and titmouse houses should be placed 5 to 15 feet above the ground. Nuthatch and flycatcher houses should be placed 8 to 20 feet above ground. Woodpecker, swallow and bluebird houses may be placed 5 to 15 feet above the ground. All houses should be placed on posts or tree trunks, in the open—not in dense foliage.

Here are a few rules, too, that will make a bird box building project more successful.

1. Don't try to make apartment houses, except for martins. Most birds that nest in birdhouses like privacy, and will drive away other birds of the same species that come too close to their homes.
2. Don't make the holes too large. Every bird has its own requirements as to the size of the hole. Make the hole to fit the bird that you want to nest in the house. Also, don't make the hole too close to the bottom of the house. Birds like to be out of sight as they sit on their eggs.
3. Don't use tin cans for birdhouses. The sun beating down on tin will heat up the inside and bake the young birds.
4. Don't set up too many birdhouses in a small area. Three or four to an acre is the largest number that should be set up, as a general rule.
5. Don't expect birds to nest in dirty houses. After each nesting, clean out the box so that the new tenant will have a clean nesting place.
6. Don't build "birdhouses." Build wren houses, bluebird houses or tree swallow houses. In other words, build a house that will attract a specific kind of bird.
7. Don't make houses that cannot be easily cleaned; that are not well ventilated; and that will not drain off rain that may leak or blow in. The purpose of a birdhouse is to help birds raise their young. They must be cool and dry.

But birds are not the only animals that can benefit from a wildlife housing project. Several kinds of mammals will use boxes or barrels also.

An ordinary nail keg, or similar sized box with six-inch holes cut near the top, and fastened securely high in a mature tree may be used by squirrels. A fifteen-inch square box, eighteen inches high, with a six-inch hole near the top, and placed ten or fifteen feet up in a large tree may be used by raccoons.

Flying squirrels sometimes will use a box intended for a woodpecker or screech owl. The hole should be three to four inches in diameter.

Deer mice oftentimes use songbird boxes, especially if the boxes are

placed in dense foliage rather than in the open.

You can even build a house for field mice and stand a good chance of housing them.

Make a box, or get a wooden cheese box, about seven inches long, and three or four inches square. Make a hole one and a half inches in diameter in one end.

Place the box on the edge of an open field, under a shrub growing in a field, or in high grass in a field that is not being cultivated. Field mice, usually, move in rather soon.

Cottontails, too, can be provided with a man-made house. Two lengths of 6″ drain tile or sewer pipe are needed. Dig a hole in the side of a hill, as shown in the illustration, and set a box or five-gallon can upside down on some rocks. Dig a trench slightly downhill and set the tiles in place, with a slight bend. Cover the tiles and box with soil leaving the open end of the tile exposed.

Three of these "rabbit houses" in New Jersey were used the first year they were installed.

One of the best all around shelters for wildlife, though, is a large brush pile, or better yet, several brush piles or windrowed brush.

These piles of branches and sapling-sized trees can be cut along the edges of fields and woods, and a hedgerow—never in the open.

The best way to build them is to pile branches and saplings in criss-cross fashion. Large heavy branches go on top—or anchor the pile down with baling wire and stakes. You can pile the brush on a large rock, stump or sturdy stake driven in the ground. But use some device to hold the brush off the ground, and be sure to anchor it so it will not blow over.

Woodchucks will oftentimes dig a burrow under the brush pile, and rabbits may nest in it, or find shelter in the woodchuck burrow. Some songbirds may nest in it, or at least perch on it, and their droppings carry seeds of blackberry, wild grape and other plants. In a year or two the pile will become a tangle of food plants.

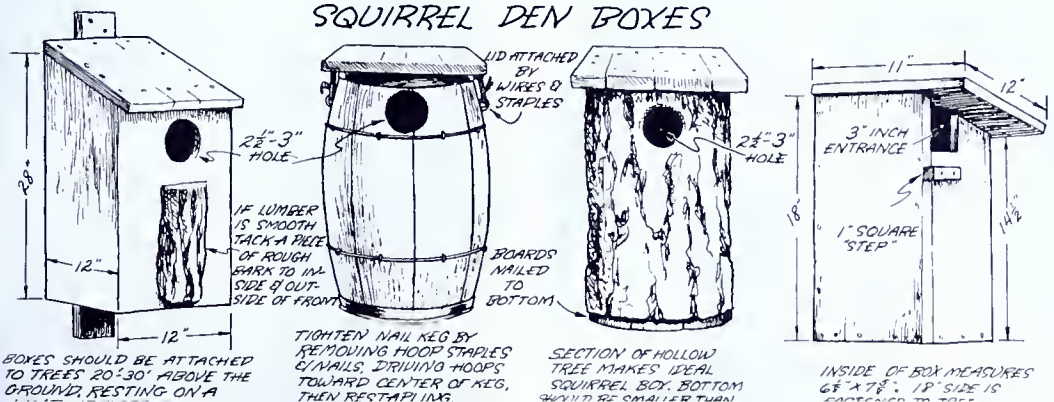
It's possible in many cases to create den trees for wildlife—squirrels, raccoons or birds.

Sometimes a farmer who is culling undesirable trees out of his woods—it's called an "improvement" cutting—will come upon a large, spreading tree that developed a broad crown at a time when the woods was more open. This tree takes up a lot of room and it won't make good timber because it is limby and short in the trunk. Foresters call this a "wolf tree." They would get rid of it to make room for good timber trees to develop.

If this wolf tree is hollow, we can keep it for a den and still accomplish the forester's purpose. Just take an axe and "girdle" it. Cut a deep notch all the way around the trunk. The tree will die and no longer shade out saplings around it, and while it is rotting away it will be a good den for wildlife.

Any or all of these homes for wildlife projects are really "Fun With a Future." They are fun while you're doing it, and they do help a few species of birds and mammals find a place to raise their young.

Courtesy of the Virginia Commission of Game and Inland Fisheries



Make Your Own Decoys

By John C. Cartier

Outdoor Photographer Image Photo by author

Hand-working cedar block duck decoys might almost be classified as a lost art. Commercial decoy-making is big business. Mass production machinery turns out hundreds of decoys from plastic, wood, rubber and other materials.

But there are still handymen and do-it-yourselfers around who feel that hand tools and a little knowledge will turn out decoys of a quality that is impractical to mass-produce. They say that proper balance, shape, durability and color patterns should be hand-worked from seasoned cedar. Besides, ducks are getting smarter each season, and nothing less than perfection will consistently pull the ugly waterfowl into shooting range.

Without even mentioning the pride that goes with do-it-yourself woodworking, any hunter would feel doubly proud in dropping ducks over decoys he carved out himself. The part about it is that making your own is not difficult. The proper steps are few.

First, material must be cedar and it should be well-seasoned so that it is completely dry and any imperfections easily detected. Cedar is light, floats well and maintains its durability. Most any lumber company will supply cedar blocks. Get them sliced three inches thick and let them dry until cured.

The advantages of making your own decoys are many. You make them to suit your own preferences as to quality, quantity, species, size, shape and color. Wooden decoys are easy to maintain and cannot be ruined by scarring shot or rough handling that is so much a part of duck hunting. You will make them for a small fraction of the cost you would pay for commercial products of even comparable quality.

That's the story as to why. For the complete, step-by-step process, simply follow the pictures.

1. NECESSITY OF starting with a large block of cedar is clearly illustrated here. After all trimming operations are complete, the body has lost much of its original bulk. When making oversize decoys, start with oversize blocks. Note center block for hand-saw cut that forms neck section.



2. AFTER ROUGH body shape is band sawed, a handsaw rips out the neck and tail sections. Draw knife makes chips fly as body is rounded into desired shape. All operations are done with block held securely in wide-jaw vise. Note bottom of block showing tail section obtained by straight saw cut.





(3) HEADS FOLLOW same procedure as bodies; band saw, draw knife and wood rasp. Bill outline is carved in and both pieces are then hand-drilled for dowel pins. Note size and length of dowel pins in foreground.



(4) TO BE SURE of proper balance, exact center of decoy should be determined before drilling dowel pin in body. A hand drill is used because one can control holes better than with power. Any good waterproof glue may be used to join two sections together.



(5) AFTER APPLYING glue, place decoy in vise under pressure. Fivepenny nails are then driven through neck into body to further insure a lasting bond. Sink nails with punch and fill holes with wood filler. When filler is dry, sand it flush.



(6) A SMALL RACK, shown above, is perfect for storing decoys while glue or paint is drying. Note how blocks are free of big knots or cracks. Such defects will ruin an otherwise good decoy in short order. These decoys are made wide and flat for better balance in water. Heads are made slightly oversize for increased attention-getters and durability.

FIELD NOTES



Handicaps on the Wing

VENANGO COUNTY—Among the three hundred odd songbirds at the feeding stations at my headquarters, is a one-legged starling, a one-legged cardinal and an evening grosbeak with only one eye. It appears as though wildlife have their troubles, too. — Land Manager Earl E. Smith, Seneca.

You Just Never Know

CLEARFIELD COUNTY — An amusing incident occurred during buck season. We had a couple of doe deer killed in a particular area and I ordered my Deputy Game Protectors to patrol that remote area on foot. The results—a doe was shot and one of the Deputies in the area observed the shooting. The culprit who did the shooting ran, but this Deputy of mine is just about as fast as a pine squirrel in a hickory tree. The result was that the Deputy ran him down. The first statement the culprit made was, "What in the world are you fellows doing back here? You're supposed to be on the highway and have no business being back here in the mountains."— District Game Protector Claude B. Kelsey, Troutville.

The Coon Was a Bruin

SOMERSET COUNTY — While talking to a coon hunter in November, this story was related to me. One night early in October while this nimrod was hunting raccoons his dogs took a track and barked treed only five minutes later. Upon arrival at the tree the hunter saw a black bear perched on a nearby limb. Two nights later another bear was treed in the same area by the same hunter and dogs. Probably it was the same bear. However, due to the scarcity of this animal in this area, it is always a thrill for one of the black bruins to be seen.—District Game Protector Robert H. Muir, Meyersdale.

He Was Hooked

BEDFORD COUNTY—While cuting up steaks from a deer he had killed on the first day of the season, Robert E. Hershberger, West Pitt Street, Bedford, found a fish hook imbedded in the right hind leg. Probably the deer got tangled in some lost fishing tackle while swimming or crossing the river or some lake in the area. — District Game Protector William Shaffer, Bedford.

Rack Retriever

LUZERNE COUNTY—During the early part of the 1961 deer season, a local hunter shot a fine buck specimen. Unfortunately the deer possessed only one side of his "rack." A week later, however, this hunter was pleasantly surprised to find that his brother-in-law had found the matching antler about one mile distant from where the deer had been killed. — District Game Protector Howard W. Bower, Jr., Wilkes-Barre.

Flying Journalist

SCHUYLKILL COUNTY—On December 9, 1961, Jack Richards, Outdoor Editor of the Pottsville Republican, flew over the county and observed the hunting methods employed by the hunters in this county, and I suspect, elsewhere. He made the same trip on the following Saturday, December 16, and invited this officer to accompany him. As we flew over Game Lands No. 110, on top of the Blue Mountain, we saw about 50 hunters, one of whom was over 100 yards from the road. We flew over large areas of excellent deer cover which were untouched by hunters. It seemed that 99 per cent of the hunters were content to stand along a road hoping that some other hunter would chase a deer in to them. Nowhere did we see an organized, or for that matter a disorganized, drive. One interesting point that we observed was the relative visibility of the various safety clothing worn by hunters. Scarlet, yellow and orange seemed to leap out at you while the old type red and black plaid seemed to blend with the surroundings. It is my wish that those people who measure the size of the deer herd by hunter success, could take such a trip.—District Game Protector Lowell E. Bittner, Tremont.

She Slipped

BERKS COUNTY—During the recent conditions of snow and ice there were many reports in the local papers of people falling on ice. This incident did not make the news.

As I was driving on an ice-covered road, several hen pheasants ran in front of my car. The last one was really in a hurry and as she got to the center of the road her feet went out from under her—just like a human—and she slid the rest of the way on her rear.—Land Manager Samuel C. McFarland, Centerport.

No Luck With the Buck

INDIANA COUNTY — A hunter who shot his first buck, after 38 years of hunting, thought his bad luck had changed and it had. For at the exact date and time as he was dragging out his buck, his ten-room house, 130 miles away had just burned down. The moral of this story, to the hunter, is don't grumble about your present luck, what's coming may even be worse.—District Game Protector John A. Badger, Indiana.

Play It Safe

PERRY COUNTY — A friend of Deputy Paul Warnick had been hunting in the sandy ridge area of Centre County and after many years without any success had finally connected with a ten-point buck this past season. It seems that this hunter had heard many times how deer, seemingly dead, were able to "come to life" and walk or run away while the hunter was preparing to field dress the animal. This hunter, having a rope in his coat, first proceeded to "lasso" the buck, tie him to a tree and then continue with the dressing-out process — making doubly sure that his first buck would also be his first in the freezer and not one of those which "came to life and took off." — District Game Protector James Moyle, Blain.





The Hunt Must Go On

WAYNE COUNTY – Doe day opened with wet chilling weather and many hunters were soaked through by 10:00 a.m. One such hunter wore a red leather hunting cap which was saturated and the color ran. His face and neck were covered with the dye and he looked more butchered than the deer he shot. Another hunter was found in his auto wrapped in blankets and clothes. The heater was on full blast and his gear was hung throughout the station wagon like the family wash. But a hunter is a hearty one and to borrow from the postal service "Neither sleet nor storm shall keep them from their appointed rounds."—District Game Protector Frederick G. Weigelt, Honesdale.

Rain Proof

LEBANON COUNTY—Deer hunters are usually well-equipped, carrying everything from hatchets to pillows. While patrolling this past deer season on State Game Lands No. 211, I noticed another unusual piece of equipment. A hunter dressed in a bright red outfit, complete with hunting knife, carrying his rifle in his right hand, and because of the heavy rain, a blue umbrella in his left. Undoubtedly this hunter did not take to the brush.—District Game Protector Perry A. Hilbert, Cleona.

Clue of a Wilderness Battle

TIOGA COUNTY—Russell Singer, New Holland, Pa., killed a deer on December 6, 1961, and when he was dressing the deer out he found a three-inch antler wedged between the ribs of the deer, penetrating the lung.—District Game Protector W. D. Denton, Elkland.

The High Price of Grit

MONTOUR COUNTY – With the snow covering the fields the pheasants are again moving to the edge of the highways to obtain grit and many are being killed by cars.—District Game Protector George A. Dieffenderfer, Danville.

Out-of-Towner

CENTRE COUNTY—A nice buck, 5- or 6-point, came to Bellefonte on November 13, entering from the south. Some of its adventures are still reaching me. It seems as if it was either chased by dogs or hunters into the Borough. It was first reported crossing the Bishop Street School grounds while children were playing, brushing against some. Several blocks away it crashed into the glass doors of an apartment house, cutting itself around the head and neck. It continued down one of the main streets and then over a 15- or 20-foot cliff, landing 3 or 4 feet in front of Dr. F. Steven's parked car; then on across town, leaving on the northern side.

This, however, was not enough. For some unknown reason, the deer turned and crossed the eastern end of town, back to the area from which it had come. This return trip was through the residential area—no glass breaking, etc., perhaps just showing he could be well-behaved if he tried.—District Game Protector Charles M. Laird, Bellefonte.

Rub On Luck

LACKAWANNA COUNTY – During the course of the deer season I met an old-timer in the woods and while checking his license asked him how the luck was. He answered not too good; that he had seen a number of does but no bucks. This surprised me because when I first saw him I observed that quite a bit of fresh deer hair was clinging to his woolen clothing. Another batch of deer hair was wedged between the magazine and barrel of his rifle below the front sight. With all this hair in evidence I thought that perhaps he had assisted a companion with handling a deer. When I asked him about all the deer hair clinging to his person and also the wisp which was attached to his rifle he appeared to be somewhat embarrassed. However, finally he told me the reason behind it. He had noticed where a more fortunate hunter had killed a deer and in his desire to acquire a little "luck" for himself, he had picked up some of the deer hair and had placed it on his clothing and had also stuck the wisp in his rifle. He stated that if it didn't do any good for him it certainly couldn't do any harm and he was willing to try anything.– District Game Protector Stephen A. Kish, Avoca.





A Weeping Sleeper

CLARION COUNTY – This story was told to me by Deputy Robert Fleming: While checking hunters on the opening day of buck season in the area between Foxburg and Emlenton, I came upon a nimrod on his favorite deer stand. When asked if he had any luck, he disgustedly told me that he had entered the woods early in the morning and, after several hours of watchful waiting, became very sleepy and it being a rather warm day he stretched himself out on the soft, leafy forest floor and went sound asleep. Upon awaking he was surprised to see a big eight-point buck standing ten to twelve feet from where he lay. Upon turning to a shooting position he startled the buck which bolted off. All our sleepy friend got was a snap shot as the deer went loping off through the forest. – District Game Protector Leo J. Badger, Knox.

Game for Real Hunters

CRAWFORD COUNTY–The hunting season closes with a good supply of game left for seed. As I see it–the problem today is not scarcity of game but scarcity of real hunters who will really expend the effort needed to find the game.–District Game Protector William E. Lee, Titusville.

Wide Range of Transportation

VENANGO COUNTY — On one road across Game Lands No. 39 there were 142 autos parked the first day of buck season. The strange part was that among all these cars there was also one horse and buggy. Not all hunters have gone modern. Also, on another road nearby, in antlerless season, was a man sitting in a wheel chair waiting for deer to cross an open field.—District Game Protector Clyde Decker, Franklin.

Tag on the Loose

CHESTER COUNTY—The following was related to me by Deputy Eugene C. Kuch. On December 13, 1961, at approximately 8:00 a.m. he received a telephone call from a lady in distress. She asked if he could help her locate a deer that she had "lost."

Upon arriving at the location she described, he found a very angry yet sad huntress who related the following story. After taking her husband to work, she and her young son de-



cided to take a drive through the country to see if they could spot a buck deer. Approximately at 7:30 a.m. they saw a nice six-point drinking at a stream. She stalked the deer and fired a shot that knocked it down. As she approached her quarry, it got up and started down the stream. She fired again and this time downed the deer for good, so she thought. Considering the buck dead she proceeded to fill out the information on her game kill tag and attached it to an antler. Finding the animal too heavy to move she decided to leave it until she went for help. Not being able to locate anyone for about fifteen minutes she went back alone to try to move the deer. When she got there the deer was gone. Thinking at first that there might have been foul play involved, the Deputy investigated and found that the deer had probably been revived by the cold stream and just up and walked away. There were no traces of blood and I could not help but wonder what a hunter would think if he bagged that deer with a tag bearing a feminine touch.—District Game Protector Edward J. Fasching, Downingtown.

Food Providers

CENTRE COUNTY — During the past few months, Sam Reed and his food and cover crew have done much fence row and border cutting on Farm Game Project No. 100 and State Game Lands No. 176. These cuttings have brought praise from local sportsmen and farmers. This plot has attracted many deer and certainly has added a new food supply for this browsing animal.—District Game Protector Joseph L. Wiker, Pine Grove Mills.

Cutting Results

VENANGO COUNTY—A check on game populations in and around cuttings made on Game Lands and checks made on game killed during the recent open season reveal that these areas attract and hold far more game than before the cuttings were made. This is especially true of rabbits, deer and grouse. Some of these areas held no rabbits before cutting but during the second season after the cutting was made a number of rabbits were killed where none existed before.—Land Manager Edward Borger, Polk.



CONSERVATION NEWS



Two State Game Lands Purchased Late in '61

As 1961 neared an end the Pennsylvania Game Commission purchased two new properties for hunters, trappers and other outdoors people.

The Commission acquired 4,000 acres of land in Franklin County for $72,000 on December 22, 1961. This purchase covers portions of the Townships of Letterkenny, Metal, Peters and St. Thomas. Conodoguinet Creek and Broad Run, good fishing streams, flow through the property which has been designated as State Game Lands No. 235.

This tract of mountainland includes parts of Bear Valley and Horse Valley and contains merchantable timber. No timber has been removed from Bear Valley, but timbering operations were conducted in Horse Valley by former owners. This land has been described as one of the best hunting areas in Franklin County. Deer, squirrels and grouse are the principal game species found there. A fair number of wild turkeys also are present.

In another purchase the Game Commission took title to a 721-acre York County property, December 28, at a cost of $54,090. The new acquisition lies three miles east of Dillsburg on the Dillsburg-Rossville Road. The tract is near the York and Harrisburg centers of population. The number given this State Game Land is 242.

Wild game species found on this public holding principally are: cottontail rabbits, ring-necked pheasants, squirrels, deer and grouse.

Roughly, half the acreage is tillable. The tract contains an excellent interspersion of field and forest and provides an abundance of edge effect which is very important to wildlife.

The area will be developed to improve food and cover for game. Sharecropping of agricultural strips will be practiced and merchantable timber on woodland field borders will be sold to the highest bidder. Surplus buildings on the property will be advertised in the near future and sold to the highest bidder.

These land purchases bring the total State Game Lands acreage to 966,936.

ANOTHER GAME LANDS PURCHASE took place in Chambersburg late in 1961. Here Game Commission officials make payment on S.G.L. No. 235 in Bear and Horse Valleys in Franklin County. Left to right are: Game Commissioner C. F. Hockersmith, Henry Warner of the Pa. Fed. of Sportsmen's Clubs, John Minehart, Edmund Wingerd, Jr., the attorney, Stoey Forrester, District Game Protector Edward Campbell, Elwood Yoder, IWLA, Franklin Kantner, and G. L. Bowers of the Game Commission.

PGC Photo by Will Johns





PGC Photo by Delbert Batcheler

THE 1962 GAME COMMISSION OFFICIALS are pictured here after their January 5 meeting in Harrisburg. Left to right are: Commission Vice President H. L. Buchanan, President J. A. Thompson, Commissioner R. G. Smith, Commissioner Nicholas Biddle, Commission Secretary D. H. Miller, Executive Director M. J. Golden, Commissioner R. M. Lucas, Deputy Attorney General John Sullivan, Commissioner C. F. Hockersmith, and Deputy Executive Director G. L. Bowers.

Commission Sets Tentative Opening Dates Of '62 Seasons, Conducts Other Business

The Game Commission met in Harrisburg on January 5 and established the following TENTATIVE opening dates for the 1962 hunting seasons in Pennsylvania:

Archers' Deer Season:	October 1
Small Game:	October 27
Bears:	November 26
Antlered Deer:	December 3

DEFINITE OPENING DATES will not be determined until complete information about the winter survival and spring reproduction of game birds and animals has been obtained. Game and fur seasons and bag limits for the 1962 hunting license year, which will begin September 1, WILL BE OFFICIALLY ESTABLISHED at the June meeting of the Commission.

Game Commission members elected to office in 1961 were re-elected for this year at the meeting. They are:

President: James A. Thompson, Pittsburgh

Vice President: Herbert L. Buchanan, Franklin

Secretary: Dewey H. Miller, Bedford

Other members of the Commission are: General Nicholas Biddle, Philadelphia; Russell M. Lucas, Philipsburg; Carroll F. Hockersmith, Shippensburg; and R. G. Smith, Berwick.

These were other actions taken, when the Commission met:

Agreed to lease portions of State Game Lands in Jefferson and Pike Counties for additional gas exploration.

Authorized the establishment of two new Farm Game Projects, one in Huntingdon County and the other in Snyder.

Revoked the hunting privileges of 498 persons guilty of serious or dangerous Game Law infractions.

Authorized the purchase of 44,000 ring-necked pheasants from commercial propagators for October, 1962, delivery.

Continued bounties on predators killed in a wild state in Pennsylvania as follows: gray fox $4, red fox $4, great horned owl $5. These bounties will be discontinued with the opening date of the 1962 small game season and remain so during November and December.

Accepted options on several small tracts for addition or access to present holdings.

Adopted a policy requiring future applicants for Deputy Game Protector to be high school graduates.

Wildlife Exhibit at Farm Show Features Rabbit

The cottontail rabbit, Pennsylvania's most popular game animal, was the center of attraction at the Game Commission's exhibit during the 46th Annual Pennsylvania Farm Show at Harrisburg, January 8-12. The 100-foot long display on the concourse near the large arena emphasized rabbit management, especially the animal's food and cover needs.

George Koehler, exhibit preparator for the Commission, transferred a section of woodland border cutting indoors to show how these edge cuttings improve farm crop yields as well as wildlife conditions. Two additional displays focused attention on rabbit life history and the land management practices recommended by the Commission to produce more rabbits.

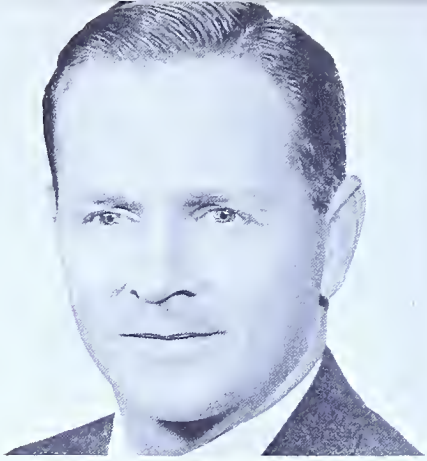
A special wing of the exhibit displayed a farm tractor with raised cutting blade and flushing bar. This high mowing device is recommended by the Commission to save nesting game birds and rabbits, provide winter ground cover and help prevent soil erosion.

Two cages of live animals and birds were, as usual, the centers of interest. As in the past, uniformed officers from the Commission's field force were on hand to answer questions and discuss game management with Farm Show visitors.



FARM SHOW EXHIBIT of the Pennsylvania Game Commission featured the rabbit and its management this year. The large case (below) in the center of the Commission's 100-foot front displayed woodland borders recommended for farms as winter food for cottontail rabbits. "Rabbit 'Rithmetic" (right) explained to farm show visitors that there is a population turnover and that rabbit numbers are greatly reduced during winter months.





Earl Geesaman



Paul Glenny

Commission Promotes Four— Creates New Position

Earl E. Geesaman, of Reading, was promoted to Administrative Assistant in the Game Commission's Division of Law Enforcement. Geesaman, Conservation Information Assistant in the southeast division since 1957, is now located in the Harrisburg office. His position became effective on December 30. A graduate of the Ross Leffler School of Conservation, Geesaman served as District Game Protector in York County from 1950 to 1957. He replaces the late Timothy Minahan.

Replacing Gcesaman as CIA in Reading is Paul H. Glenny, of Gettysburg. A Deputy Game Protector for a year before his enrollment in the Ross Leffler School of Conservation in 1952, Glenny served as District Game Protector in Dauphin and then Adams County for more than eight years.

The newly created position of Hunter Safety Coordinator was filled by John C. Behel, of Wilkes-Barre. Conservation Information Assistant in the Commission's northeast division since 1957, Behel is now stationed in Harrisburg. Behel began his service with the Game Commission in 1948 as a student officer in the Ross Leffler School of Conservation. From 1949 to 1957 he served as District Game Protector in Luzerne County. Behel's new position became effective on January 27.

Replacing Behel as CIA in the northeast division is former District Game Protector in Lackawanna County, Stephen A. Kish. In 1946, Kish enrolled in the Ross Leffler School of Conservation and has served in Luzerne and Lackawanna Counties since his graduation.

John Behel



Stephen Kish



Old-Timers Proud of Shooting Record

Last December, Pennsylvania news media carried a Game Commission item about the (possibly) oldest successful nonresident 1961 deer hunter in this State. The item told that 75-year-old H. H. Herron, of Columbus, Ohio, reported he bagged a 4-point, 135-pound buck on December 4, the opening day.

That story evidently triggered loyal Keystone State senior citizen hunters into telling of their big game successes.

Randolph H. Thompson, who resides in State College, wrote: "We cannot allow Ohio to beat out Pennsylvania. I, too, am 75 years young, hunted alone last autumn and got my buck the first morning of the '61 season. This was my 25th deer killed at the present hunting camp."

But Charles Cross (no youngster, either), of Hammersley Fork, Pa., topped the exploits of Herron and Thompson. He reported bagging his buck in Clinton County on December 14, 1961. Adding "just a little remark" this outdoorsman said: "I hunted six years before I saw a deer alive in the woods. Then, in 1924, I saw a buck and killed it. This buck weighed 195 pounds. Have killed a deer every season since. Also, last season I killed my 12th bear."

Flight to the Moon

In a pamphlet published in 1703, an anonymous writer advanced the idea that migratory birds wintered on the moon. He figured the birds could reach the moon in 60 days by flying 4,000 miles every 24 hours, sleeping on the wing!



PGC Photo by George H. Harrison

TURKEYS RELEASED by the Turkey Club of Lebanon and Dauphin Counties totaled 536 on January 7 bringing their four-year total to 1,564. The cost of the four-year project was $12,810. About 70 per cent of the birds were released on State Game Lands. Walter Kuntz and Warren Zeiders, both of Linglestown, release a hen in Manada Gap.

Double Big Game Hunting Success Reported

A Lancaster archer, Lewis E. Frank, Jr., reported killing a 225-pound bear in Pennsylvania with a broadhead last November 27. He wrote the Game Commission to ask, "Has any Pennsylvania archer been as lucky as I to take a buck deer and a bear in the same year with a bow?"

To date, no comparable 1961 feat has been reported to the Commission office at Harrisburg. However, information indicating that another hunter partially matched Frank's accomplishment has been received. Robert Jones, Steelton, reports bagging this year: a buck with a broadhead, the first day of the '61 archer's deer season, and a 150-pound bear with a rifle bullet the opening day of the recent bear season.

Old Christmas Trees Put to Use

Members of the York Chapter of the Izaak Walton League of America put 500 old Christmas trees to good use this winter.

Waltonians and Junior Ikes piled the trees on trucks and took them afield to provide winter cover for small game in southcentral Pennsylvania.



Courtesy of the Juniata Sentinel

PORCUPINE OR SQUIRREL? asks Deputy Game Protector Carl Dressler, of Mifflintown. This gray squirrel was found in Allen Seeger State Park by Lewis McMullen, of Burnham. Evidently the animal was on the losing end of a fight with a porcupine.

Wild Turkey Feeders Filled

More than 2,100 Game Commission turkey feeders, a large number of them 30- to 50-bushel capacity, were filled with ear corn in late December. Many of the feeders are situated in remote Pennsylvania woodlands and are located on sites normally used by wild turkeys during severe winter weather. Game Protectors completed the feeder filling operation between the close of the deer season and Christmas.

This seasonal operation is in accord with Commission policy on winter feeding which is designed primarily to care for wild turkeys when the birds' natural food is in short supply or unavailable due to deep snow or crusting. Except in an extreme emergency, such as arose last winter, Game Commission policy restricts winter feeding to wild turkeys.

The ruffed grouse, the other native woodland game bird, will "bud" and survive when food on the forest floor is not available. The greatest hazard to grouse is a coating of ice on trees and the ground over an extended period.

Of the game species on agricultural land only the bobwhite quail needs a helping hand during crucial winter periods. Wherever a covey is known to exist farmers and sportsmen usually help Game Protectors provide food for these little game birds.

Cooperative Browse Cutting Program Organized

The Pennsylvania Game Commission, in cooperation with the Department of Forests and Waters, has planned more extensive browse cutting on State Forest Lands this winter. Last winter a successful "pilot program" of this type was carried out on selected areas.

Areas have been marked for cutting this winter in each forest District. Some of these areas will be cut by Game Commission crews but sportsmen's organizations are encouraged to take a more active part in this program in the weeks ahead. Areas have also been marked on State Game Lands where Game Commission personnel will supervise cutting activities by sportsmen. Forestry personnel or Commission personnel will supervise the cutting on State Forest Lands.

Sportsmen's organizations are urged to plan cutting activities and to contact District Game Protectors who have State Forest Lands or State Game Lands in their Districts to arrange to cut areas marked on these public lands. Many sportsmen's organizations are interested in providing feed for game during the lean winter months. The best way to provide feed for deer is through cutting and sportsmen will derive considerable satisfaction from later observations of deer utilization of the treated areas.

RESOLUTION

WHEREAS, After giving due consideration to the present predator population;

THEREFORE, BE IT RESOLVED, That the Pennsylvania Game Commission, acting under the power and authority vested in it by the provisions of Article XI, Section 1101 of the Game Law, by resolution adopted this 5th day of January, 1962, hereby directs that for the fiscal year beginning July 1, 1962, the bounty payments authorized for birds and animals enumerated below, if killed in a wild state in any County of the Commonwealth during the period specified and presented in the manner and under the conditions stipulated in the Act aforesaid, shall be as follows:

Gray Fox—$4 for each gray fox killed, except that such bounty on gray foxes be discontinued with the opening date of small game season, whatever it may be, and remain so through November and December.

Red Fox—$4 for each red fox killed, except that such bounty on red foxes be discontinued with the opening date of small game season, whatever it may be, and remain so through November and December.

Great Horned Owl—$5 for each great horned owl, adult or fledgling, killed, except that such bounty on great horned owls be discontinued with the opening date of small game season, whatever it may be, and remain so through November and December.

BE IT FURTHER RESOLVED, That the foregoing Resolution shall be duly published in accordance with Section 1102 of Article XI of the Act aforesaid in the March and April issues of the PENNSYLVANIA GAME NEWS, also to be brought to the attention of the public by news release and other sources of public information; and

BE IT FURTHER RESOLVED, That the Executive Director is hereby authorized and directed to certify the foregoing as an act of the Pennsylvania Game Commission.

M. J. GOLDEN
Executive Director
Pennsylvania Game Commission

SWAN LAKE ON THE DELAWARE. These three mute swans surprised ornithologists when they appeared at the Delaware Water Gap in early January. These birds usually winter farther north and it is a rare sight to see them on the Delaware.

Photo by R. G. MacLeod



Forester Explains the Why of Antlerless Deer Cropping

L. E. Stotz, who is employed by the U. S. Forest Service and is a ranger on Pennsylvania's Allegheny National Forest, recently wrote:

"At a distance, it is nearly impossible for a hunter to distinguish a male bear from a female. Therefore, both sexes are legal game. It is only when the male of a species can be clearly recognized that the female is placed upon a pedestal by those imbued with the 'mother complex.' This has been done with the female deer by many well-meaning sportsmen, and it has blinded them to a common sense approach to herd management. Why it should be any more unsportsmanlike to kill a doe in season than it is to shoot a she-bear has never been satisfactorily explained to me.

"Another tired old argument against antlerless deer seasons centers around the theory that the herd will be wiped out if female deer are legal to hunt.

"Hungry deer can be their own worst enemies, but in pre-historic times the large predators and the Indian hunter kept the deer within bounds and in balance with their food supply. Today, in the complete absence of predators, this has become the hunter's task. He cannot do it under the buck law alone. He must also strike at the source—the mother deer. This can best be done through antlerless seasons on a permit basis. With such a versatile tool at its command, the Pennsylvania Game Commission can regulate the harvest of deer without large areas being over-hunted or under-hunted.

"Antlerless deer seasons offer the most practical answer to intelligent herd management in such a heavily populated State as Pennsylvania. They cut down the terrible waste due to malnutrition. They reduce the slaughter on the highways. They provide thousands of additional man-days of hunting pleasure. They provide hope to beleaguered managers of Tree Farms and public forests who have seen productive forest land turned into wasteland by too many deer."



Antler Panel

Those miscellaneous white-tailed deer antlers which the hunter was so proud to collect can be displayed without cluttering the walls. Simply mount a number of them on one panel. Begin with the widest spread at the bottom, locating the next in size inside the first and work up to the top with the smallest located there. This style of display will allow a half dozen trophies to occupy the area usually reserved for one.—*Rev. George L. Harting.*

Fine Deer Harvest

NORTHEAST DIVISION – Much comment has been heard relative to the fine harvest of bucks in the Northeast Division. Deer were in good flesh and racks were much larger than previous years.—Supervisor Roy W. Trexler, Dallas.

Low Value of Fur Affects Harvest and Hurts Trappers' Pocketbooks

Current low fur quotations might influence milady to conclude, right or wrong, that now's the time to purchase that mink coat or stole of her dreams.

A reliable fur dealer in southcentral Pennsylvania quoted these prices paid, early this winter, for raw pelts: Minks—males $7, females $3.50. Raccoons—large $2, mediums $1.50, small $1. Opossums—large 50c, mediums 25c, small 15c. Muskrats – good quality average skins 70c to 75c. Brown weasels—average quality 25c to $1. Red foxes—October, November and December quality up to $1. Gray foxes—fall and winter caught, 10c to 35c. Skunks—black and short stripes, from 75c to $1. Broad and narrow stripes, from 25c to 35c.

Not so many years ago, when there was far more demand for fur, a prime male mink skin brought $30, a large coon $5, a large muskrat $3 and a red fox $25 to $30, to quote a few examples. The appreciable drop in prices paid for native fur is reason enough why interest in trapping has lagged in recent seasons. Changes in fashion, warehouses bulging with imported and domestic pelts and the continued improvement in man-made (synthetic) furs—all contributed to the low prices paid for wild-caught fur in the last several years.

Naturally, when raccoons, opossums, foxes, minks and other species of predaceous wildlife are under-harvested their populations tend to increase. While there always is a complex relationship between predator and prey species, the overabundance of some species such as raccoons and opossums may exert extraordinary pressure on prey species, which include small game.

It should be realized, however, that predators have a place in the wildlife scheme. But the unpleasant fact is that populations of certain game-taking animals remain at exceptionally high levels only because their fur has low monetary value.

Some other forms of mortality which exert a toll on small game are: farming activities, domesticated predators, pesticides and insecticides, highway vehicles and sometimes cold, wet weather soon after the young of small game come into the world.

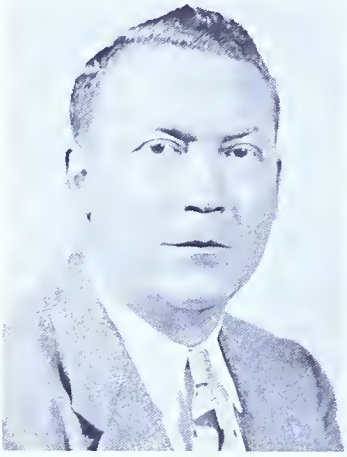
All things considered, a tribute is due Mother Nature. Despite all the hazards encountered, the inherent cunning and nesting persistence of wildlife, with an assist from man, provide a shootable supply of small game each autumn for hunters to enjoy and harvest.



NEW ADDITIONS to the mammal collection of the State Museum are these two black bears. Through the cooperation of the Pennsylvania Game Commission, the standing bear was obtained at Franklin in Venango County and the other from Ridgeway in Elk County.



PENNSYLVANI 25 YEA



GEORGE B. SMITH
District Game Protector
Reedsville, Pa.

Appointed a Student Officer on July 2, 1936. He was made a Traveling Game Protector on March 1, 1937, and his title changed to Game Protector on January 1, 1939. He entered military service October 15, 1942, and returned to duty on February 1, 1946. His title was changed to District Game Protector on August 1, 1949, which position he still holds.

J. BRADLEY McGREGOR
Game Protector-Land Manager
Washington, Pa.

Appointed a Student Officer July 2, 1936. He was made a Traveling Game Protector on March 1, 1937, and his title changed to District Game Protector July 16, 1938. He was made a Sr. Game Protector on January 1, 1939, and changed to Game Protector on November 16, 1940. On August 1, 1949, his title was again changed to District Game Protector. June 1, 1958, he was appointed to the position of Game Protector-Land Manager, which position he now holds.





DAVID R. TITUS
District Game Protector
Warren, Pa.

Appointed a Student Officer July 2, 1936. He was made a Game Refuge Keeper on March 1, 1937, and his title changed to Game Protector on January 1, 1939. He entered military service on March 29, 1941, and returned to duty on October 6, 1941. He was again called into the service on January 26, 1942, and this time returned on April 1, 1946. On August 1, 1949, he became a District Game Protector, which position he still holds.

AME COMMISSION
LUB





GEORGE W. KEPPLER
District Game Protector
Meadville, Pa.

He began his Commission service as an Assistant District Game Protector on November 15, 1935. He was made Traveling Game Protector on April 1, 1936, and his title was subsequently changed to District Game Protector on March 1, 1937. He served in this position until January 1, 1939, when he was made Sr. Game Protector. On November 16, 1940, his title was changed to Game Protector, and on August 1, 1949, to District Game Protector, which position he still holds.



RICHARD W. ORR
Law Enforcement Assistant
Southeast Division Headquarters
Reading, Pa.

He began his Commission service as a Student Officer at the Ross Leffler School of Conservation on July 2, 1936. On March 1, 1937, he was made a Game Refuge Keeper, and on March 16, 1938, he was appointed Traveling Game Protector. January 1, 1939, his title was changed to Game Protector, and he served in this capacity until April 16, 1948, when he was made General Operations Assistant. He became an Assistant Division Game Protector on August 1, 1949, and his title was changed to Law Enforcement Assistant August 1, 1956, which position he still holds.



CLYDE E. LAUBACH
District Game Protector
Elysburg, Pa.

Began Commission service as a Student Officer on July 2, 1936. He was made a Traveling Game Protector on March 1, 1937, and his title changed to Game Protector January 1, 1939. His title was again changed to District Game Protector on August 1, 1949, which position he still holds.

March Maneuvers In the Boas Street Woods

By Marian N. Baker

THE trademark of March is wind. We run the gamut from the lion to the lamb variety and back again. For days the wind with the sound of a rushing train has been racing through the Boas Street Woods—now freighted with driving snow and again with a dash of rain intermingled with dried leaves, winter dust and snatches of bird song.

The clothes on our neighbor's clothesline whip and snap and stand straight out from the line tugging at the restraining clothespins and then subside to a gentle flapping or even hang limp and motionless in the sparkling sunshine. The March winds are practicing their maneuvers.

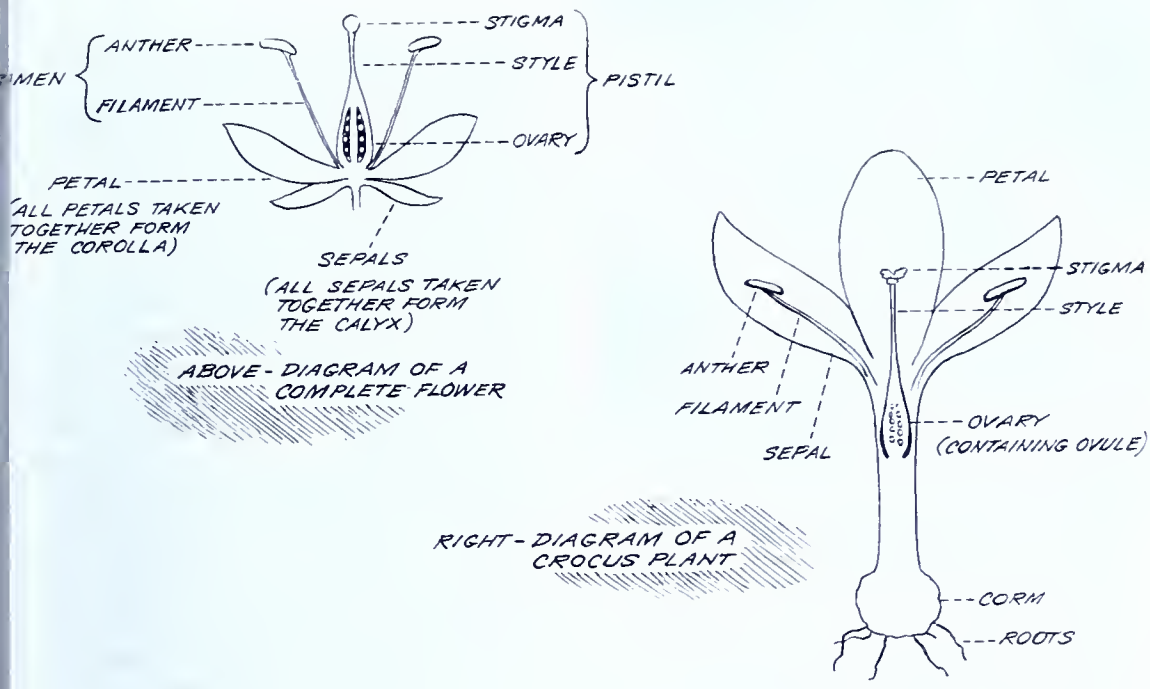
Weather observers have descriptive names for these performances ranging all the way from calm through various degrees of breeze, gale, and storm to hurricane. The scale on which these estimations are made is called the Beaufort Scale. In the days of sailing vessels Admiral Beaufort of the British Navy devised a scale to estimate the speed of the wind from its effects on sails. This scale completed in 1805 is still reliable with modifications for use on land, the speed of the wind being measured by its effect on trees rather than sails. For example, when the wind is sufficient to cause the leaves on a tree to rustle it is labeled a "slight breeze" with a velocity of four to seven miles per hour and has the Beaufort rating of two, whereas if it causes large branches to sway it is a "strong breeze" of twenty-five to thirty-one miles per hour with a rating of six. The descriptive terms used by the Weather Bureau are slightly different.



SPRING SPRINGS on Boas Street in March when the crocuses and daffodils push through the cold, hard soil. In spite of the lingering snow, they continue to provide gay borders to the sidewalks on Boas Street.

By observing this effect of winds on trees and other objects we can become fairly proficient in estimating the wind velocity. The day the clothes stood straight out from the line the weather forecaster reported, "gusts of up to thirty-five miles per hour," which on the Beaufort Scale would be rated at seven and described as a "high wind" or "moderate gale." That same day I was interested in watch-





ing the flags atop two public buildings in the same block. One stood straight out from the staff while at the same time the other hung limp. The air moving through the Boas Street Woods was exhibiting some of the properties of water with its rapids, eddies and pools.

Crocuses Unconcerned

The crocuses pay no attention to any of this or even to the fact that snow lingers in the protected spots. They continue to make gay the borders of flower beds or pop up here and there in unexpected places. In our neighbor's yard a ring of crocuses and snowdrops circles a young magnolia bush like some elfin Maypole dancers.

Suppose we look at the crocus more closely and examine the parts of the flower because the names for the parts of the crocus will hold for all other flowers that will be described in the course of these articles.

A complete flower is made up of petals, sepals, pistil and stamens. The pistil is further divided into three parts beginning at the top—stigma, style and ovary. The stamen likewise is divided into two parts—the anther and the filament. We can find all these parts in the crocus flower.

The crocus has what appears to be six petals, but if you look at them closely you will see that the three outer ones differ in texture, especially on their outer surface, from the three inner ones. These three outer segments are known as the sepals: the inner ones are the petals. In many flowers the sepals are green like the leaves, but here in the crocus they are the same color as the petals. The sepals and petals are joined at the base to form a flower tube.

Center Construction

In the center of the flower tube is the pistil, the top of which is crowned with a ruffled three-lobed stigma. The long slender style connects the stigma to the ovary which lies deep in the flower. Follow the style to the very end and you will find the ovary containing many pearly undeveloped seeds or ovules.

The three stamens crowd close around the pistil. You can plainly see their long narrow anthers shedding yellow pollen. These anthers are sup-



IN THEIR TRAVELS from flower to flower, the bee carries pollen from one plant to another and thus the beginning of a seed for next year.

ported on slender filaments attached to the wall of the flower tube.

Here the bees coming to gather nectar from the crocus are dusted with the pollen. In their travels from flower to flower some of the pollen rubs off on the sticky stigma of another crocus. When this happens the pollen begins to grow down through the style to the ovary where it unites with an ovule to produce a seed. If the stigma should not receive any pollen in this way it bends down and touches the pollen that has fallen in the base of the flower.

Although crocuses produce seeds they are propagated mostly by their solid underground stems called corms. Small corms form on the top of the parent one wherever a flower stalk appears. For this reason crocuses work their way to the top of the ground and must be replanted after a time.

The high winds may be of no concern to the crocuses, but they toss the branches of the silver maple that are lumpy with flowers, causing many of the blossoms to be scattered to the pavement. These blossoms are like no other flowers that you have ever seen and at first glance you may think that they are nothing at all; like many tree flowers they are inconspicuous except for their numbers, since they have no petals.

I hear no bees in the silver maple trees in the Boas Strect Woods. The flowers, having no petals or odor, are not so attractive to bees as some other species, but neither are they dependent upon them for pollination; their vast quantities of pollen are scattered by the prodigal winds of March.

The American elms blossom a short time after the silver maples. The sturdy lopsided flower buds shed their protecting scales and clusters of slender stalked flowers emerge to festoon the branches. These are built on the scale of the silver maples except that both stamens and pistils are well developed in the same flowers. The seed with its encircling wing begins to mature immediately. The forked pistil continues to grow and forms the notch in the wing of the seed. The seeds will mature and fall in a few weeks. Watch for drifts of the green disks on the pavement.

Snow Has Given Up

The last vestiges of snow have given ground to the forces of sun and wind and either gone back into the atmosphere from whence they came or sunk into the sodden earth. The grass lies flat from the recent weight of snow, but already it is taking on the green cast of spring.

How does this transformation come about? Does last year's grass get green again? Here are some green spears that are fresh and tapered on the end showing no sign of the cutting we gave them with the lawnmower last fall. I pulled up one small grass plant and it told the story. Dried and withered strands sheathed the outside of the plant—these were the ones that we had cut last year. The green was coming from the new shoots in the center. The new blades were being pushed up from the base. The end of the blade was not the growing point but the base—it was growing like our hair or fingernails grow. So unless we set our lawnmowers too low we do not

injure the growing point of the grass.

The purple grackles blew in today, being the first migrants to book passage on the unpredictable train of the winds. They took refuge in the bearded branches of the tall Norway spruce when the gale was at its height. From there during a lull they careened to the neighbor's television aerial where like unsteady weather vanes they sent forth their raucous "rusty hinge" calls. Simultaneously with each rasp they fanned out their tails and spread their wings apparently with great effort. It gives one the impression that the wing and tail connections are indeed badly in need of lubrication.

For your book the purple grackle is a black bird, larger than a robin, with a white eye and a long wedge-shaped tail that appears to have a crease in it. The feathers of the back and head have a purple sheen in sunlight.

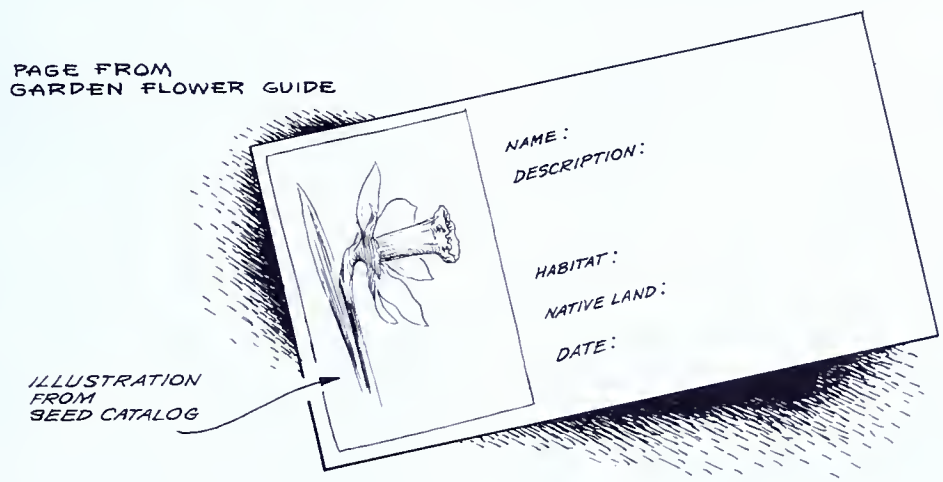
Winter Hasn't Conceded

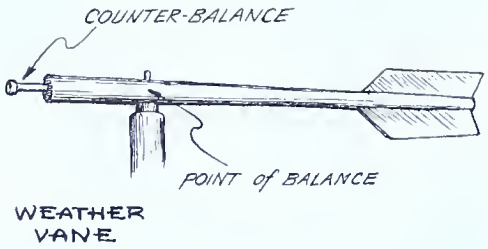
Although it was officially spring on March 20, winter has not conceded the point. The rain that pattered against the windowpane last night froze as it came in contact with the colder objects above the ground. This morning trees, shrubs, fences, wires and even clumps of garlic on the lawns are encased in a sheath of ice. The day was overcast so we did not get the sparkling beauty of it all, which we could have enjoyed to the fullest extent, since it wasn't heavy enough to break branches and was obliging enough not to form on the pavement. The weatherman calls this formation glaze. It occurs when a layer of warm rain-producing clouds form aloft and freezing temperatures exist at ground level.

Six-Sided Crystals

During the day we had snow in many forms mixed with rain and sleet. Some of the flakes were an inch in diameter—really not snowflakes but great clusters of the six-sided crystals held together by their interlocking rays. It seemed as if winter were having a general house cleaning and getting rid of the last remaining assorted odds and ends of her supplies in one grand flourish.

If spring appears to advance and retreat in an unpredictable fashion go out into the Boas Street Woods some clear evening and watch the inexorable forward march of the season as recorded in the spring stars. Look to the north where the big dipper hangs





WEATHER VANE

as if by its bowl with the long crooked handle pointing to the east. Follow the curve of this handle until you come to a bright orange star; this is Arcturus, the star of spring, rising higher in the sky each evening while Orion with his dogs, the dominant figure of the winter skies, retreats toward the west.

Suggestions

1. Make a flower guide to the garden flowers. Use colored pictures from seed catalogues. Get the special bulb catalogues for early spring flowers. The regular seed catalogues contain mostly summer flowers. All cultivated flowers were at one time wild flowers and many are still growing wild in their native countries. Others have been so changed by man that they are quite different in appearance from their wild ancestors. The book "Our Garden Flowers" by Harriet Keeler (Now out of print, but available at the State Library) tells where our cultivated flowers originated as wild plants.

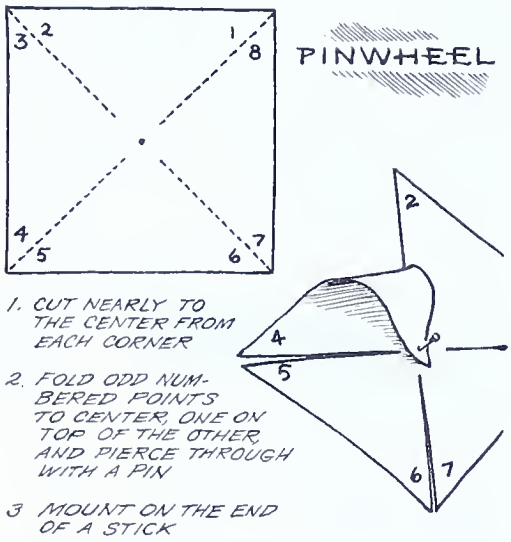
2. Make a weather vane. This can be as elaborate or as simple as you choose. We usually think of them as an arrow pointing into the wind. Remember that the arrow must be balanced with the notched end longer and flatter than the pointed end. For a miniature weather vane a lead pencil makes a good shaft since the eraser end is a little heavier and will balance the longer tail.

3. Make a pinwheel out of a square of heavy paper. Hold it in the wind. Notice how its speed changes in different locations.

Study the Beaufort Scale—copies of it can be found in "Weather, A Guide to Phenomena and Forecasts," one of the Golden Nature Guides, and in "Weather," of the Boy Scout merit badge series. Observe the effect of winds on familiar objects. Listen to the report of the Weather Bureau to check your findings. If you are interested in elaborate weather gauges see the book "The Weather for a Hobby" by Raymond Yates.

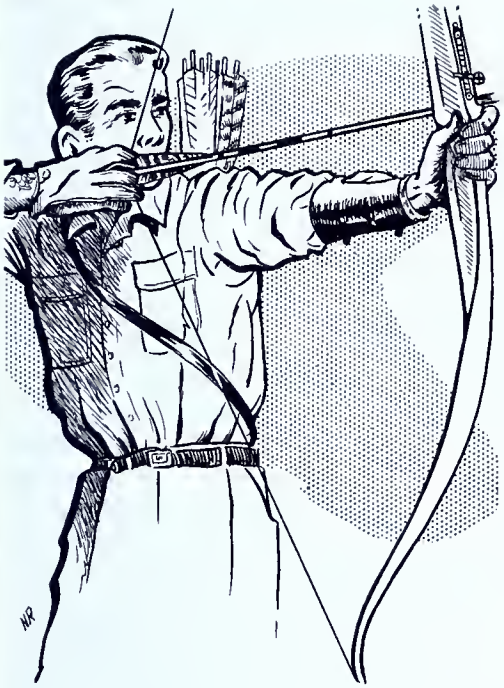
4. The National Audubon Society recommends that you continue to feed your bird boarders until their natural food supply is replenished. At this season most of the natural food supply has been exhausted.

5. For those interested in watching the march of the seasons in the sky, the book "The Stars, a new way to see them" by H. A. Rey will be most helpful.



Elk Killed

ELK COUNTY – During the last day of deer season, December 18, 1961, some careless hunter in Benezette Township, Elk County, shot and killed a large cow elk that weighed approximately 500 pounds. The cow, a magnificent specimen of the elk family, had the typical black hair and tan rump not found on the white-tailed deer.—District Game Protector Fred H. Servey, St. Marys.



The Bow Sight

By Tom Forbes

IN THE sport of archery the participants have one goal in common. Tackle and shooting technique varies widely from one locality to another but the archer's primary concern is to send his arrow to a designated mark each time he releases the arrow from the bow. It goes without saying that it is the man behind the bow who scores the hits and it should be equally plain that the excellence of his equipment will be reflected in his scores.

Archers may be grouped in two general grand divisions, i.e., target and field shooters. They both strive for accuracy in loosing an arrow from the bow, but they use different methods in attempting to achieve this result. The highest scoring archers shooting at known distances use a bow sight. It is also true that the bow sight on the field course enables archers to post high scores in field competition over unknown distances.

To the field archer, who classifies himself as an instinctive shooter, an archer who uses a bow sight is called a free-styler. In the immediate past there was little intermingling among the groups. Target clubs have always been open to every archer regardless of his shooting equipment, but many field clubs barred sight shooters from competition. While a few clubs still maintain this policy there is the general realization among archers that discrimination is poor policy and detrimental to the sport. We, in Pennsylvania, recognize as the Pennsylvania State Champion the man and woman who score the highest total score in the State Field and Target Annual Championship Tournaments.

Field archers, as a group, desiring to improve their scores are adopting the bow sight and are agitating to secure a change in the rules which will permit marking the yardages on the field stakes. Recently the rules were amended to eliminate the five per cent variation in distances to the targets. Consequently the field shooter knows the exact distance to each of the field



targets and he is in fact shooting at known distances.

Many field shooters are asking "Will a bow sight improve my scores?" Categorically the answer is "yes." Bear in mind that we are speaking of competitive shooting under today's rules. The second question follows quite naturally; "How do you use a bow sight?"

Like a Rifle Sight

The bow sight is similar in principle to the adjustable rear sight on a rifle. The parallel will be closer if we imagine the rifle sight moved out to the muzzle of the weapon. In this position the effect of raising the sight will cause the gun to shoot lower and conversely if the sight is lowered the gun will shoot higher. If we moved the sight to the right the gun would shoot to the left and with the sight moved to the left the gun would shoot to the right. In the first case we are correcting for elevation and in the second case for deflection. A simple bow sight consists of a large headed pin and a strip of adhesive tape. Manufactured bow sights range in price from $1.25 to $6. Before you select one try the homemade type on your bow.

Cut a 6-inch length from ¾-inch wide adhesive tape and affix it to the back of your bow with the bottom edge about 1 inch above the arrow plate. Measure the approximate vertical distance from your right eye to the point of the arrow nock at full draw and set this distance off on the tape measuring up from the arrow plate. Insert the pin at this point so that the head projects about ¼ inch from the left side of the bow in the full draw position. Take a position thirty yards from the target. Come to full draw and bring the pin head into the line of sight from your eye to the center of the target. Loose an arrow from this position. Let us assume that your arrow strikes the target low at 6 o'clock. To adjust the sight for elevation, extend the bow arm full-length toward the target with the bow held vertically, and the back of the bow toward you. Move the bow vertically until the sight *a*, is on the line of vision from your eye *b* to the center of the target c, fig. 1 *a*. With the left thumb nail, mark the point *d* on the back of the bow, which is on the line of vision from your eye to the arrow in the target. Check this finding, by making certain the sight *a*, is still on the line of vision from the eye to the center of the target *c*. Move your sight to the new position which you have marked with your thumb nail. The new sight

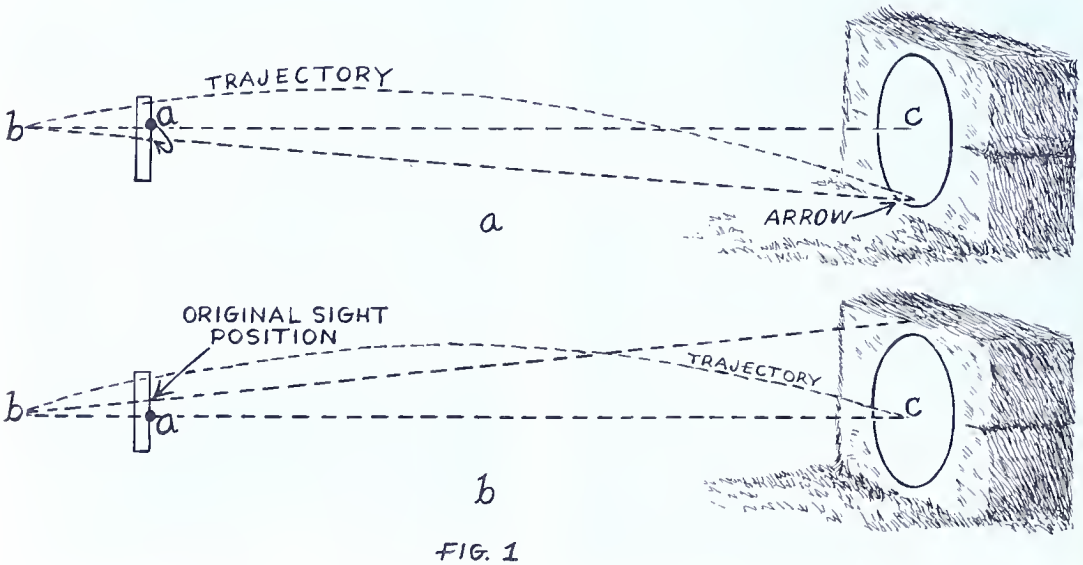


FIG. 1

setting is correctly placed to deliver your next arrow to the elevation of the center of the target Fig. 1 *b*. If the next arrow strikes right or left of center you correct in the following manner. If the arrow struck to the right of the center move the pin head closer to the side of the bow. If the arrow struck to the left of center, increase the distance of the pin head from the side of the bow. Make several trials and adjustments until your arrows regularly fall in the center of the target. Mark this place on the tape as the 30-yard mark for future reference. Move to the 40-yard distance and without changing the sight setting loose an arrow by aiming at the top of the target. The distance that the arrow falls below the point at which you aimed is the amount of elevation that you must correct for, by the method previously described. The exception is to remember that you aimed at the top of the target in the latter instance and not at the center. Remove the pin and move it down to the indicated position. Now aim at the center of the target and if you have made your adjustment carefully the arrow should strike at the elevation of the center of the target. Mark this distance on the adhesive tape as the 40-yard mark. Other distances may be found by the method described and marked on the tape.

Loose Arrow in Same Manner

In the foregoing we have assumed that you have loosed each arrow in exactly the same manner. Until you can perform this act consistently you will acquire no benefit from a bow sight. This means that the arrow plate or rest, the knocking point on the bowstring, and your anchor point must be constant for every shot. The arrow rest and the knocking point on the string are fixed and unchangeable assets. Your anchor point is the factor which becomes the important part and one hardest to accomplish. Unless the arrow is drawn to exactly the same point on each draw the velocity and/or elevation of the arrow will change from shot to shot and no advantage will be gained using a bow sight. The field archer customarily uses the high anchor. Its advantage is that it permits the archer to sight along the arrow shaft and align the shaft with the center of the target and since the vertical angle that the arrow makes with the line of sight is small, little compensation for elevation at short ranges is required. The disadvantage of the high anchor is the difficulty of establishing an anchor point so that the arrow will neither be overdrawn nor underdrawn with consequent increase or decrease in velocity when it is discharged from the bow. For this reason the target archer uses the underjaw anchor. This anchor insures that the length of draw and the elevation of the arrow nock will remain exactly the same for each arrow loosed from the bow. This is the anchor with which the highest scores are made by the sight shooters.



THE BOW SIGHT looking at the bow from the front.



The archer using the high anchor will be able to increase his score by using a sight for the simple reason that once he has set his sight for the designated distance each arrow will follow exactly in the path of its predecessor providing he has a uniform release. To gain the utmost benefit from a bow sight the archer should learn to use the under jaw anchor because it provides fixed points for establishing the length of the draw and the elevation of the arrow nock which determines the angle at which the arrow is inclined toward the vertical. To make this draw the bow is held in a vertical position and the head is kept erect. The draw is made so that the drawing hand slides along the right side of the neck with the forefinger pressing against the jawbone. The draw is continued until the bowstring touches the tip of the nose and the center of the archer's chin. From this position the sight is aligned on the center of the target and the release is made.

You may be assured that your first attempts to change from the high anchor to the under jaw anchor will be awkward and uncomfortable. However, there are many archers who use the under jaw anchor on the field course or target range and the high anchor in the hunting field. If you choose you can do the same.

Portraits of the Season

March

THE woods are no longer white, save in sun-scarred patches that sag a little more each day. Wet with the snow melt, they still wear the sombre browns of last year, but the snap and crackle of dry autumn is gone. Winds smell of earth now, a good, green smell that lingers over field and forest.

The keening nose of the red fox catches it and she feels the year's young stir within her. She trots past the new skunk cabbage hoods in the valley swamp, turns up the rutted road, following her nose to whatever the season will offer.

The creek is free and spumes the length of the valley, tossing and roaring with all the abandon of a child. It spills in arcing sheets over the dam, and the beaver keeps a knowing eye peeled to the winter-taxed structure lest it give way. Each new day pours fresh energy from the swinging sun deep into the stirring seeds of a winter-used land. The fox cleans out her burrow and a strange restlessness comes on her as the days grow longer.—*John Guilday*



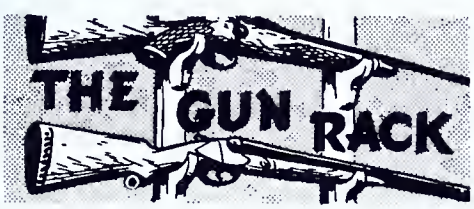
TRAP LINE GUN DE LUXE is this three-bore German (drilling) 30/30 Winchester rifle barrel under double 12-gauge shotgun. The fox was shot at 125 yards while beaver trapping.

Firearms for the Trap Line

By Jim Varner

DURING the holidays we received numerous inquiries about firearms best suited for the trap line. Considerable thought is necessary to cover such a broad subject since one man's opinion is no better than another. As thinking Americans we all pursue a definite initiative of our own. Therefore, the best the writer can do is give you his personal opinion and experiences which may furnish some angles our readers have overlooked or forgotten.

Yours truly started trapping around 1902 and has trapped most every fur-bearing animal, as well as pests, from the lowly opossum to the bay-lynx, or bobcat, and the wily coyote. Northern Missouri and southern Iowa constituted my early trapping territory. All fur bearers were numerous with few trappers seeking them.



This early school of learning the ways of our wildlife was a worthwhile experience. After moving to Pennsylvania in 1920 I dropped trapping until 1930. At that time I resumed the interesting game for six more years for the purpose of teaching my son firsthand the ways of all wildlife. Few hunters are equal to the cunning and resourcefulness of the expert trapper. He stands alone as a real woodsman. Give him a few traps and some matches and his primitive man's knowledge will carry him through many days of rough going. Add a Hudson Bay, or similar, type axe with a light .22-caliber rifle and cartridges to above equipment and he will live indefinitely on what nature affords. This applies to the intelligent sportsman type of trapper and not the "Johnny-sneakum" one who lives by stealing your furs and traps. We seem to have an increasing number of this type of individual in all walks of life.

As far as the catch is concerned a firearm is not needed. Most animals are dispatched easily with a stout piece of wood or by drowning. The main thing is not to mutilate, which lessens the pelt's value, especially mink. No one relishes killing a skunk with a club as said "putty-cat" has a way all its own of changing the aroma of the atmosphere. This fur bearer's value is so low that one is wasting his time by skinning it. Your firearm is useful here but does not kill quick enough to prevent it from spraying the disagreeable perfume.

Worth Carrying

Personally, we feel the trap line firearm is worth carrying, as the trapper runs into some unusual situations where a gun is needed. "What firearm?" you may ask. Here, the writer approaches our subject "FIREARMS FOR THE TRAP LINE" with caution. The best answer would be, "Use the arm you own and hunt small game with." They will all do the job and do it well. If you are trapping during open hunting season many opportunities will be encountered where small game can be bagged. Numerous predators and pests can be destroyed which are harmful to the game crop, like the great horned owl, red and gray fox, weasel, crows and others. The first three mentioned carry bounties most of the year. Most all trappers are practical game shots and good hunters.

The author's first trap line arm was a .22-caliber Quackenbush Safety Cartridge rifle with an 18-inch barrel. It was a freakish looking boy's rifle weighing 4 pounds. It handled both short and long cartridges which were loaded with black powder then. My next trap line arm was a Model 1890 slide-action Winchester chambered for .22 shorts only. This is the rifle Annie Oakley made famous as she used it exclusively on flying targets. Practically the same rifle is made today by Winchester and is called the Model 62. For the trap line the 62 is tops, being practically indestructible. The above two rifles were constant companions.

The third outstanding "trail gun" was a model 1860 .44-caliber Colt percussion revolver with an 8-inch barrel. This old Civil War Colt killed everything from ground squirrels to the prairie wolf (coyote). You will note its characteristics in the January column of this magazine, *Martial Revolvers of 1861.* I have all three of above firearms in my collection and prize them very highly. Several other makes were used, like the Stevens Ideal and Crack-shot models, Hopkins and Allen, Remington rolling block, Marlin and others. All were good but lack the glamour of the top three.

They Come In Handy

On one occasion a big dog coyote, trotting down a steep banked slough with the wind, failed to spot me making a mink set. Using both hands to steady the old revolver I made a $5 bounty with one shot which helped purchase more traps. This time a .44-cal. round ball was used. The coyote was within 50 yards before he was alerted by the click of the hammer. He hesitated a couple of seconds too long and promptly had both shoulders broken as I was all set for just such a maneuver. Such events were thrillers for a 13- to 15-year-old farm lad.

Another event that lingers in my mind happened during my first year in high school. My only chance to trap then was on Saturdays and Sundays. By working fast and hard, I was able to get out a number of the more careful sets suitable for fox and coyote. My younger brother checked and reset the ones that missed or held animals during the week.

While carefully concealing two No. 4 Newhouse wolf traps along a cattle trail which foxes and coyotes were using, I suddenly heard the whistling

of wings. Looking up I saw a big flock of "prairie chickens" (sharp-tailed grouse) passing nearby in their tremendous flight to the roosting area of wheat stubble some 400 yards away. The full flight of these spring-time "boomers" is a sight to behold.

They travel so fast their wings produce a swishing sound one can hear at quite a distance. My trap line gun that day was a Model 1897 12-ga. Winchester full-choke shotgun. I finished the trap set, placed all utensils in the basket, carried surplus dirt away from the set in my canvas "kneeling" cover and immediately commenced crawling on elbows and knees toward where the birds landed. I was pushing the shotgun ahead during the laborious approach and had reached a point within 100 yards of where I marked them down when all of a sudden the familiar "B Z Z Z" of a big prairie rattler near the muzzle of my gun brought me quickly to an upright position. I was conscious of the roar of wings as the birds were nearer than I expected, but the picture changed all of a sudden. The 4½-foot reptile was too near for comfort.

He Was a Fighter

This one preferred to fight instead of crawling away. He was in the usual coil with the head up and the 14 rattles he carried buzzing at every movement I made. Old "buzz-tail" got his head torn off with the first shot and his body blown apart by the second shot for spoiling my chance of obtaining a "prairie chicken" dinner. I have never been able to figure out where this rattler came from so late in November, which up to the day this reptile was encountered, had been a very cold month with some snow. One seldom sees one later than the first of October.

Trappers, you can see a firearm on the trail is not a necessity, but it adds up to a lot of adventure.

Pennsylvania does not allow the use of the semi-automatic pistol or rifle for trapping. However, the semi-auto



TRAP LINE TROPHIES are displayed here by the author. Two bobcats and two gray foxes caught during a heavy snow storm are shown. One cat weighed 33 pounds.

shotgun is legal and comes in numerous styles and weights. Otherwise, they have an unlimited number of revolvers in plinking and target models, especially, in .22 and .38 caliber ranging from the inexpensive High-Standard Sentinel, Ruger Frontier models, Colt Frontier Scout, to heavier calibers—all belt handguns. Rim-fire rifles made in all actions, ranging from single-shots around the $20 figure to the finest repeaters up to $85 are available. Medium- to high-powered rifles shooting center-fire cartridges leave little to be desired. If you will take time to learn to reload you can shoot the center-fires very economically.

As you can see by the few experiences mentioned, trapping is a valuable endeavor from the beginner's standpoint to the experienced expert. Add a firearm to the game and it becomes more of a thrilling adventure. While March and April are limited to muskrat and beaver from a fur standpoint, many trappers continue to trap for fox, raccoon, skunk, opossum, weasels and great horned owls. The foxes and owls carry a bounty and are easier to catch during these spring months when the earth is not frozen. Use the most suitable arm you have until you decide what your needs are, then purchase the most practical lightweight Firearm for the Trap Line.



BASES OF HIGH WALLS proved to be unsatisfactory for successful shrub survival. The standing water and bank slippage caused high mortality.

SHRUB SURVIVAL

By W. C. Richter
Game Biologist

Photos by the Author

WE HEAR and read much today about survival—most of it concerns human survival during or after a thermonuclear attack. In this short space I, too, would like to talk about survival—shrub survival.

Perhaps relevelled strip-mine spoil offers as great a disparity in conditions for shrub planting as any which can be found. To develop and diversify such areas for wildlife requires, in part, establishment of shrub species which will furnish adequate food and cover. Past and present research has added much to our knowledge concerning the value of the various shrub species as food and/or cover for wildlife. We are fairly confident that we know what to plant for wildlife's benefit, however, we are not nearly so confident that these useful species can be successfully established on the various types of relevelled spoil material.

An experimental shrub planting program was initiated some years ago on

relevelled spoil from the Lower Kittanning, Upper Kittanning, and Lower Freeport coal seams in Clearfield County, Pa., to determine just what measure of success could be expected from these types of spoils. It seemed wise to confine efforts initially to Autumn Olive, Multiflora Rose, and Tartarian Honeysuckle but because of a personal interest Silky Dogwood and Saw-toothed Oak were included in some plantings. All species were planted with a tree planter on relevelled but unprepared and untreated terraces and the subsequent survival counts were taken at random locations on the terraces during the late summer following both spring and fall plantings.

Tables I and II give the percentages of live plants existing at the end of the first growing season.

TABLE I

SURVIVAL OF SPRING AND FALL SHRUB PLANTINGS ON THE UPPER AND LOWER KITTANNING SPOIL

UPPER KITTANNING

Fall Planting	*% Survival*		*Spring Planting*
Autumn Olive	72	81	Autumn Olive
Multiflora Rose	74	75	Multiflora Rose
Tartarian Honeysuckle	96	81	Tartarian Honeysuckle
Saw-toothed Oak	18	62	Saw-toothed Oak
Silky Dogwood	15	—	

LOWER KITTANNING

Autumn Olive	78	96	Autumn Olive
Multiflora Rose	86	88	Multiflora Rose
Tartarian Honeysuckle	87	77	Tartarian Honeysuckle
	—	83	Saw-toothed Oak

TABLE II

SURVIVAL OF SPRING PLANTED SHRUB ON LOWER FREEPORT SPOIL

LOWER FREEPORT

Spring Planting	*% Survival*
Silky Dogwood	95
Multiflora Rose	90
Autumn Olive	88



STRIP-MINE SPOILS are a pretty poor place to grow wildlife food, but game biologists are working on certain shrubs that will produce winter food and increase the management value of these spoiled areas.

Now, What Did This Teach Us?

1. Percentage survival figures might be somewhat high since it was difficult to ascertain, where dead seedlings were absent, whether the "holes" in the hedgerow represented mortality or the failure to plant a seedling at that location. This was not too serious a problem.

2. Excellent weather conditions (plenty of moisture) prevailed after planting and undoubtedly contributed tremendously to the success of these plantings.

3. Under favorable weather conditions some shrubs with potential wildlife value have a sufficiently high survival rate to warrant use on certain Lower Kittanning spoils and on the Upper Kittanning and Lower Freeport spoils.

4. Erosion, standing water, composition of spoil material, human frailties, and mechanical difficulties affect survival.

5. Plantings at the bases of the highwalls were subjected to greater mortality due to standing water and bank slippage than other locations. These conditions contributed greatly to the low survival of Saw-toothed Oak and Silky Dogwood planted on the Upper Kittanning Spoil during the

fall. Perhaps it would be wise not to plant within 20 feet or so of the base of a highwall.

6. Erosion or gullying was more severe in the furrow made by the tree planter when the seedlings were planted in the fall than it was when the seedlings were planted in the spring.

7. With the exception of Tartarian Honeysuckle, spring planting yielded a higher survival rate.

8. Initial observations indicate growth has been better on the outer edges of the terraces than it has been in the middle or at the bases of the highwalls.

What's Next?

Unquestionably, more work! Many questions still demand answers. Many useful species have not been investigated and many different types of spoils have not been planted with shrubs. Hence, further work will be undertaken with our planter, planting bar, and mattock with the hope that eventually we will know more about utilizing shrubs for game food and cover on strip-mine spoil areas.

Letters . . .

Happy Non-Residential

I've been sitting at home reading my January issue of the PENNSYLVANIA GAME NEWS, and eating a part of my 6-point buck, which I had the pleasure of shooting in Pike County, and I thought I would write a few words about hunting, etc.

I am one of those 46,403 nonresident hunters who have been hunting in the Pennsylvania woods since 1951, and didn't hurt the game population, till four years later, when I shot my first deer. Since that time I shot a deer every year and in 1960 I got my first black bear—a real thrill!

I shot ringnecks, hare, cottontails, woodcock, grouse and gray squirrels in Pike County, and a couple of black squirrels in Clinton County. Believe me, even if I didn't get anything in these past ten years, it would still be worth the $20 license fee against my resident fee of $5.15 in New Jersey.

My main ambition for the past two years was to shoot a black bear and to get a turkey, using a call. I got the black bear and was very happy about it. My goal now is a turkey—as my only response to my call was hunters and deer!

Thomas Napolitano
50 Kearney Avenue
Whippany, N. J.

He Took Our Advice

Your article in the November issue of GAME NEWS entitled "How to Get Your Buck Without Half Trying" was a fine article, and I studied it in detail.

Before season my brother and I gathered up some old wood and we went to the same place I have hunted previously without too much luck and I built a "Tree Stand."

At exactly 7:30 on opening day I had a four-point buck come up to my stand within 30 yards and I shot him in the neck and he dropped right there in his tracks.

I was in such thick laurel undergrowth, etc., that on the ground it is quite possible that I would not have seen this deer. Even if I would have seen it from the ground, his horns were very small, partially hid by his ears, that I probably would have let him go through. But the tree stand paid off in this case.

I couldn't help writing to you to let you know that quite a few of us guys do read the GAME NEWS and we try the suggestions and advice so given us. I personally want to thank you for your article, for I truly think it helped me get my buck on the first day. "Keep 'em Coming."

Jay C. Moran
R. D. 4, Box 345A
Altoona, Pa.

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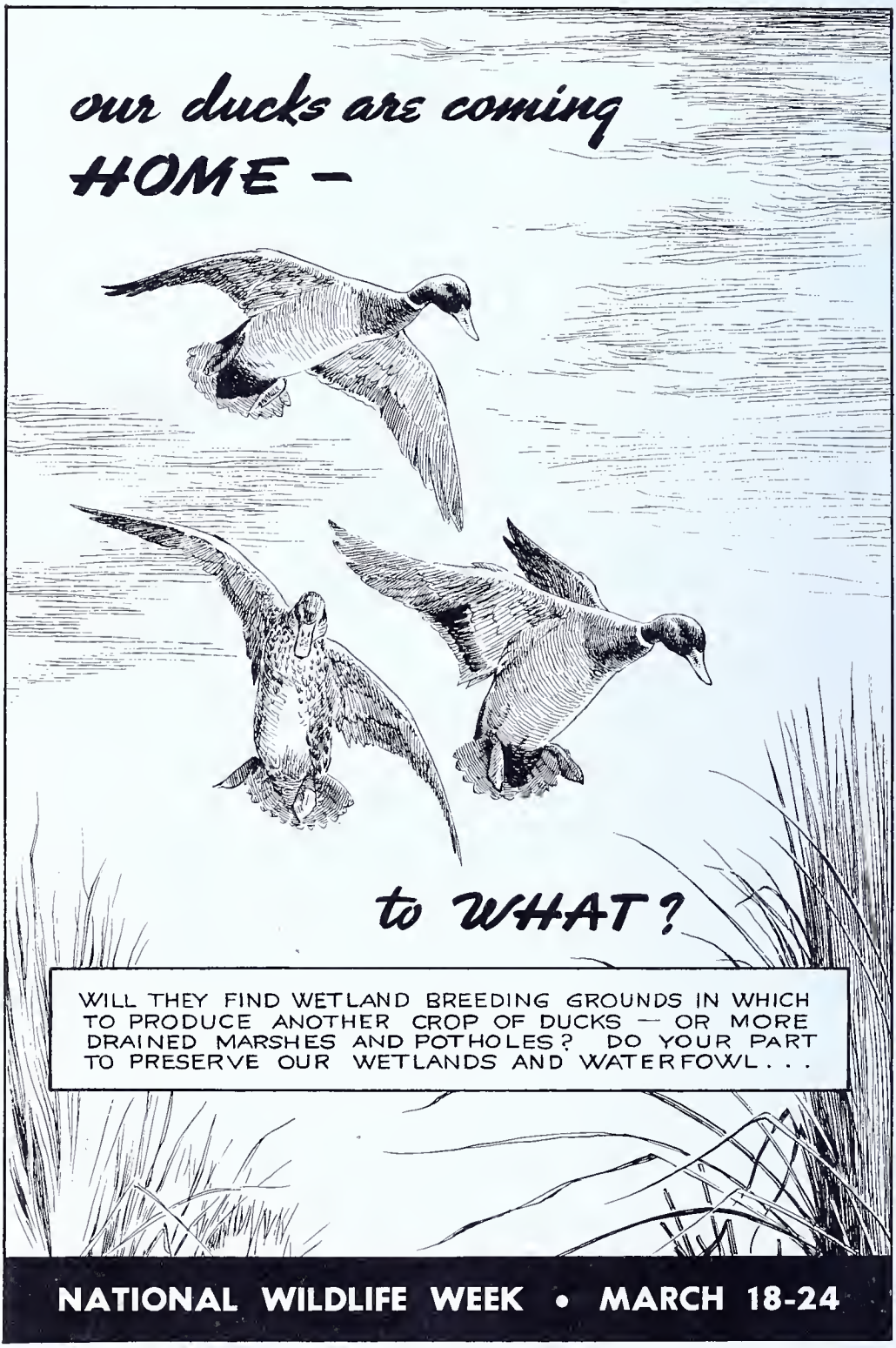
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Cover Painting by
Fred J. Boyce

COVER: The bald eagle, our national bird, is passing from the scene in Pennsylvania. At one time, this great bird of prey was rather common in the Keystone State, but in recent years, the nesting sites have been disappearing rapidly. This month's cover shows the last nesting site, to our knowledge, in Pennsylvania, located on the north branch of the Susquehanna River between Towanda and Sayre near Wyalusing Rocks. Eagles lay two eggs in March and hatch chicks 30-36 days later. April, therefore, is the month during which these down-covered youngsters begin to grow to their eventual six- to seven-foot wing span. It takes two years before the immature acquires his white head. The river at this point will be used for try-outs for the U. S. Olympic Canoe Team on June 3.

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EDITORIAL . . .

Popp Society

IN THIS age of criticism and chronic complaining, there is not enough appreciation for the many good things we do have. Too often we find things to complain about on our hunting trips or excursion to the outdoors, rather than appreciating the joys of being there. These petty, little annoyances often overshadow the pleasures of the trip. How often we have all looked back on a pleasant experience in the outdoors and realized how happy we were at the time. Wouldn't it be wonderful if we could be more aware of happiness while we have it instead of sometime later when the experience is over. With this goal in mind, a new group has been formed known as the Popp Society, "popp" standing for "potentates of present 'preciation." The organization has no bylaws, officers, meetings or dues. Anyone can be a member. The only requirement is to appreciate good things in the present as well as in the past. Popp members enjoy hunting, fishing, and the outdoors while they are there as well as later at home and in the barber shop. Popp members take a few seconds of time to appreciate good things while they have them. If he is hunting, a Popp says to himself. "brother, you are really livin'. This is what you have been looking forward to for eleven months. This is it." Popp Society members never can be guilty of thinking "I didn't know how happy I was until it was over," or "It seemed like hard work at the time, but I guess we really were enjoying it," or "If I had it to do over again, I'd appreciate it a lot more."

If you like the ideals of this group, proclaim yourself a member and the next time your four-legged pride and joy helps you bag a pheasant or grouse, appreciate! The next time you are walking through a spring woodland which is bursting with the blossoms of a new year, appreciate! When that doe and her fawn bound off for deeper woods with white flags high, appreciate! The thrills of the outdoors are too few not to enjoy them to the fullest. Welcome to the Popp Society.—*G.H.H.*



Pennsylvania's Black Squirrels

By John J. Kriz
Game Biologist

"HEY look! There goes a black squirrel!" "You're crazy, who ever heard of a black squirrel!?!"

This is the type of remark which was heard in various parts of Pennsylvania this past fall. Because of an acute shortage of acorns and beechnuts in the northcentral part of the state, squirrels were moving abnormally long distances in search of food.

As many people know, the northcentral portion of Pennsylvania is the home of black squirrels. So, the person who made that first remark was not crazy, just a little more observant than his companion who probably never even heard of the dark "bushytails."

They Do Exist

Surprising as it may seem to people who know, many persons are ignorant of the fact that black squirrels do exist. Perhaps this article will throw a little light on this little dark creature. The black squirrel is nothing more than a color phase of the northern gray squirrel. Roughly stated, it is the opposite of albanism, where, instead of being white, the individual is black —or melanistic. Melanism is usually less common than albanism in most species, but it does occur rather frequently among woodchucks and has been recorded among deer and various birds. Black varieties appear more commonly in the northern reaches of an animal's range. Blacks and grays will normally mate with one another and their offspring may be either black or gray.

Black squirrels can commonly be found in the area in and surrounded by Warren, Clearfield, Lycoming, and Tioga Counties and up into the southern tier of New York State. Formerly the range occupied by these interesting rodents was much more expansive. But it appears with the advance of civilization and the apparent selective shooting of the blacks they have withdrawn to their present habitat. Records of black squirrels have also been reported from West Virginia, New Brunswick, Ontario, Michigan, and Minnesota.

Live in Small World

Squirrels are usually born, spend their entire lives—which may be six years or more—and die in the rather small radius of less than a half-mile. But if a food shortage develops they can, and do, move rather long distances. Two records of tagged squirrels have been obtained recently where the animal moved more than sixty miles. Movements of five miles or so are not uncommon during bad times.

At the present time it appears that the black phase of the gray squirrel in Pennsylvania is neither increasing nor decreasing in any appreciable numbers. Recent studies undertaken by the Pennsylvania Cooperative Wildlife Research Unit at the Pennsylvania State University show that the annual ratio of blacks to grays is rather con-

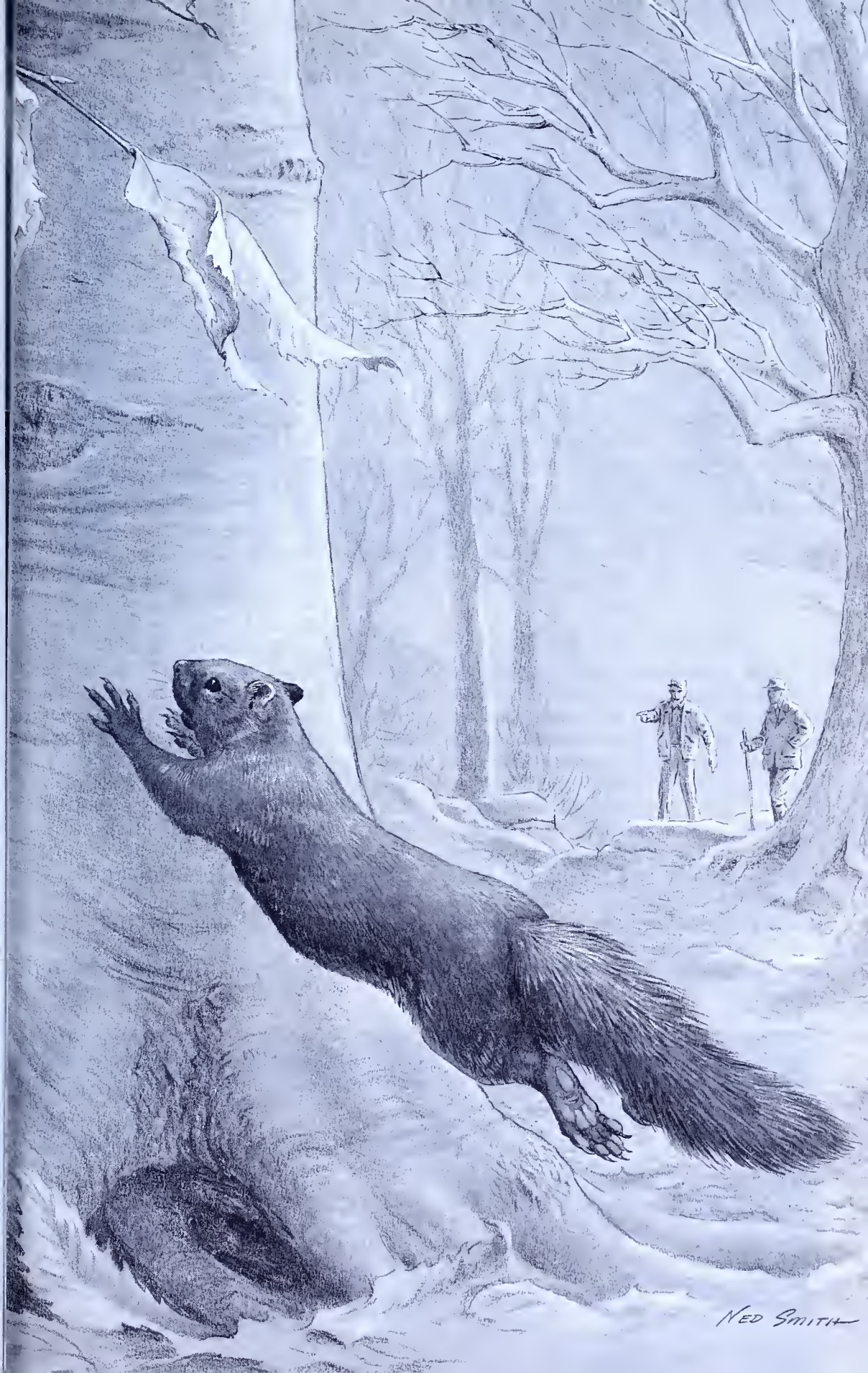

NED SMITH



Photo by James S. Seibel

JET BLACK is the color of this squirrel. Some black squirrel colorations will vary from jet to smoky black.

sistent. In 1956 live-trapping and tagging records from Cameron County show a ratio of about 10 blacks for every 16 grays. These squirrels were always ear-tagged and released at the point of capture after being weighed, sexed, and aged. The ratio in 1958 was approximately 10 blacks to every 17 grays and in 1960 the number of black to gray squirrels was about 10 blacks to 15 or 16 grays.

Grays Outnumber Blacks

Some experienced squirrel hunters will probably disagree with the above figures and say that blacks outnumber grays in their favorite squirrel hunting haunts. This may possibly be true, but it has been further seen that in 1958 a record was kept of all squirrels sighted in the woods in Cameron County. It was found that for every 10 blacks observed 12 grays were noted. And during the subsequent small game season a hunter bag check showed that hunters killed two blacks to every gray. This data points out that melanistic squirrels are much easier sighted in and among the forest vegetation than are the normal colored grays. It further indicated the preference of some hunters to shoot blacks over grays.

Hunters are often heard remarking about the "big black" squirrels seen or shot. Actually, according to liveweight records, weight differences between blacks and grays were not significant. The average weight of an adult Northern gray squirrel—whether it be black or gray—in the northcentral part of Pennsylvania is about twenty-one ounces.

Coloration Varies

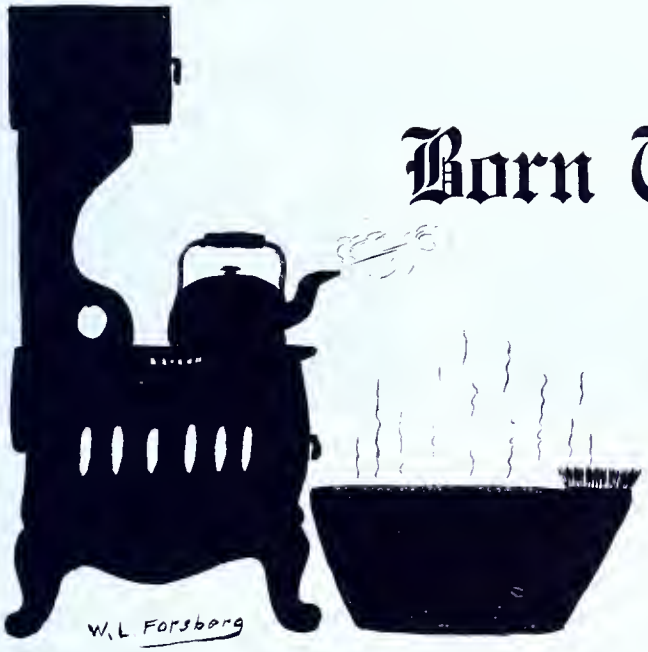
The actual coloration of melanistic squirrels varies considerably from "jet black" to those which exhibit a "smoky" appearance. This difference is not discernible from a distance and is noted only after the animal is observed close-up. The "jet black" variety is rare and the greatest number of squirrels fall into the "medium-black" category. Of seventy-six black squirrels examined closely one autumn only eight individuals were "jet black." Up to the present, no "pinto" or spotted black and gray squirrels have been observed.

"Hey, there goes another black squirrel!" "Well, whatta you know, how about that!?!"

BLACK AND GRAY shown together here appear to be two different species of squirrels. Actually they both are the gray squirrel specie, the black is merely a melanistic form of the gray.

Photo by James S. Seibel





Born Too Late?

By Bill Walsh

MOST of us congratulate ourselves on living in an era of technical progress. We like its standard of living. Great-Grandpa's stories of splitting wood on a frosty morning leave us peculiarly unimpressed with its delights. And Great-Grandma's yarns of heating water on top of the stove for a Saturday night bath (in a wash tub, no doubt) make us shiver.

There sulk in our midst, however, a few members of a peculiar and solitary breed of cat. They, unlike the forlorn young men in the famous cartoons devoted to the theme of "Born Fifty Years Too Soon," bemoan their having arrived on the earth some fifty years or so too late. Ardent sportsmen, they believe outdoor opportunities were so much better many years ago that a few sacrifices in the direction of personal comfort would have been worth it.

Important in their thinking, too, is that hunting and fishing are often best enjoyed in solitude—and that yesterday's nimrod or angler had more elbow room—even if he had to walk to it or ride a horse.

To decide how valid is their wish to have walked the countryside of the 1890's, let's go back there and look around. Such an excursion into the past is possible by flipping through the pages of the "outdoor" magazine of the period. Since the rare copies we have aren't enough to go around, we'll do the flipping and report what we find.

First off, it's easy to conclude that hunting, fishing, and other "outdoor" sports ranked high in favor in those days—for while the magazine was entitled "RECREATION" some 99 per cent of its contents falls within the realm of rod and gun.

Secondly, only a quick-glance investigation reveals that if today's malcontent requires only large numbers of fish and game for complete and utter happiness, he'd have been in outdoor heaven in 1899—the year to which we have now returned. These juicy items, taken word for word from letters to RECREATION'S editor, will illustrate:

"The beginning of the hunting season was marked by bad weather



Photo by P. J. Van Huizen

"OUR PARTY of six shot three deer at Hatteras Island and during a week's stay there killed 200 brant, 50 geese, and about 75 redheads. At Ocracoke Island, where we lay about a week, we shot 300 redheads, two swans, 30 geese, and about 100 black heads, besides a lot of quail."

. . . as a result most of the sportsmen who were out reported poor success. . . . Dr. E. H. Belyea, Dr. Jones, Mike Doheny and Fred Crafts who spent Saturday and Sunday at Spaulding's Ferry got 64 chickens and 34 ducks in the two days. . . . T. C. Saunders and his party got 18 chickens. . . . C. H. Smith and three others got 94 ducks in two days. . . . Many others were out and reported poor scores. . . ." (From a reader in Devil's Lake, N. D.)

One is tempted to wonder what astronomical figures might have been tallied if the day had been a rousing success. At any rate, here are some excerpts from a report of a Maryland quail hunt by an admitted amateur shot:

"At the end of the day, Wilson and I had accounted for 8 birds between us. . . . Our companions bagged between 30 and 35."

The following was written by a subscriber in Hastings, Mich.:

"We were trout fishing in June on Little Manistee River where I have fished every year for the past five . . . four of us caught 700 trout in a week and could have caught more. . . ." (The Editor scolded this fellow by saying: "Entirely too many. You should not have taken more than 20 fish a day to each rod. This would aggregate 480 trout.")

This from a Philadelphia contributor:

"Our party of six shot three deer at Hatteras Island and during a week's stay there killed 200 brant, 50 geese, and about 75 redheads. At Ocracoke Island, where we lay about a week, we shot 300 redheads, two swans, 30 geese, and about 100 black heads, beside a lot of quail."

From Danville, Ill.:

"After encircling the field—only 35 acres—several times, and making two trips to the sled to unload our game, we decided we had enough and started home. We had killed 43 rabbits in two hours and ten minutes for the four of us. . . ."

From a reader in Chester, Pa.:

"It is true that we brought home over 800 birds (waterfowl) but that was only a little more than half of what we shot, lost overboard, gave away, and disposed of in one way or another."

From Coronado, Calif.:

"We are fair shots . . . some of us excellent shots . . . and we now have our lake in fair shape for

blind shooting . . . we came in last night from one day's shooting with 338 birds . . . our highest score for any one day was 906 . . . another day we secured 840 and on another 597 . . . the first day's shoot of all was 502. . . ."

From Harbor Springs, Mich.:

"The report of my catch of 154 trout in Maple River is correct. I have often caught more than that. . . ."

From Washington, D. C.:

"Had a good time on my trip . . . caught 72 bass."

All of which seems to indicate a plenitude of fish and game as well as almost unrestricted freedom for individual outdoorsmen to reap bounteous rewards on those days when fish were biting or when it seemed impossible to miss with scattergun or rifle. There are notable exceptions, though.

Throughout most of the east, for example, the white-tailed deer populations of 1899 were nowhere near the levels at which they stand today. But, generally speaking, RECREATION magazine attests to a fair supply of most everything else. In its pages, too, one finds the beginnings of an awareness that the supplies of game and fish needed a bit of "looking after."

At turn-of-century, hunting and fishing folks were becoming conservation conscious and realized that some measures of protection needed to be introduced in order to preserve various of the species. President McKinley's assassination was two years away (1901) and Theodore Roosevelt who then became the nation's leader was to ride as well as give impetus to a growing wave of national sentiment for better management of the nation's renewable natural resources.

Apparently several years ahead of his time, the RECREATION editor seldom failed to "roast" those who reported taking game in quantities which he deemed excessive — even though his self-set quotas loom more than liberal by today's standards. Witness the following exchange in the issue of May, 1899:

"In reply to yours of November 28th would say you were correctly informed. We killed 93 grey squirrels November 17th. There were four in the party. . . ."

"You killed more than twice as many as you should have killed and

"IT IS TRUE that we brought home over 800 birds (waterfowl) but that was only a little more than half of what we shot, lost overboard, gave away, and disposed of in one way or another."



should be ashamed of your record, instead of boasting about it. No man should think of killing more than 10 squirrels in a day and if all shooters were as greedy as you and your friends there would soon be no squirrels left to kill. — The Editor."

Apparently, the editor had "tracked down" the "culprit" above before taking him to task. Readers helped in ferreting out the "game hogs," as in the following:

"Dear Editor: I see you roast a lot of game hogs in your excellent magazine. We have one here and would like to have you put him on the gridiron and give him about 2 turns. His name is Charles O. John. Some weeks ago he went out with a 10-gauge and brought in 52 cottontails, no less than 47 of them having been shot in their forms. Soon after this he sneaked out again in pursuit of quails. He soon found a covey and when they ran under a brush pile he crawled up close and killed 11 with his right barrel, but missed the poor lone bird that flew. He knew he would have missed them all had he flushed them before firing. Then he set traps and caught and sold about 40 dozen prairie chickens.—Truth."

The Editor replied in this fashion:

"I hope to live to see the time when all states will have laws making the penalty for ground raking and trapping 30 days in the work house for each bird so taken. I am sorry there is not such a law now for I should mighty like to hear that John has a steady job breaking stone for the state."

We have no records to indicate if the Editor was ever sued by the readers he roasted (or how many times) but modern-day blue-pencil men are limited to crusading in different style, to be sure. At least he was never accused of not putting in enough hunting and fishing material—for there is little else to be found in RECREATION'S pages.

In most issues the magazine had a routine format. In addition to reproductions of outdoor paintings and photographs, each issue carried humorous and factual articles on hunting, fishing, and outdoor living. Regular "departments" consisted of Natural History, Fish and Fishing, From the Game Fields, and Guns and Ammunition. All the material for these departments came from readers.

Most of the magazine's treasury came from the readers, too—at a subscription price of $1 for 12 issues (Ed. Note: Pennsylvania GAME NEWS is certainly holding the line on inflation) —for RECREATION carried little advertising. Eastman Kodak occasionally used the magazine's pages to proclaim the virtues of the 1899 Folding Pocket Kodaks.

That Pennsylvania deer hunting in 1899 was a far cry from the fine sport it has become today, is attested to in this letter to the magazine's department called "From the Game Fields."

"Last November I took a deer hunt in Black Log Valley where deer are plentiful. There is a party of men who go into that valley after the season is over and hunt deer with hounds. My friend and I, not being lucky enough to get a deer, remained a few days in December to hunt rabbits which are exceedingly plentiful. One morning as we were starting out we heard a pack of hounds on Black Log Mountain. When they came closer we could see a deer about 150 yards ahead of the dogs. There was 6 inches of snow on the ground with a thin crust through which the deer broke at every jump. Every day for a week we heard the dogs chasing deer. . . ." From B. P. Hood, Jr., Loysville, Pa.

The following letter was also printed in the "From the Game Fields" Department:

"Your magazine has made a different man of me. I now see the necessity of stopping when I kill a reasonable number. I never was a

game hog but came very near it, and now reading RECREATION for the past 3 years has shown me the great truth. . . ." From Calvin Lee, Reading, Pa.

The Editor's habit of "roasting" game hogs is applauded in this letter:

"**There is good deer hunting and plenty of small game, turkeys, grouse, quail, and rabbits within 10 miles of the county seat. Our laws are good but not well enforced. We have plenty of game hogs and it pleases me to have RECREATION roast them.**" From B. J. Minter, Franklin County, Pa.

And this from an early-day successful rabbit hunter:

"**A friend and I recently had a most enjoyable hunt in the hills of York County, Pa. We drove 35 miles to our hunting grounds in the Conewango hills, 11 miles west of the city of York. In the first day's shooting we got 22 rabbits. The second day we added 24 more to our score.**" From J. H. Sieling, M.D., Manheim, Pa.

There are many others, too, but, of course, there is not room to print them all. Generally they speak of plenty of game, no hunting regulations to worry about, and an awakening among some outdoorsmen of a need for wildlife management—roughly sixty years ago. That conservation work, wildlife management, technical know-how, and many research accomplishments have come about in that short time is truly a tribute to the caliber and determination of the men selected to the tasks—not only here in Pennsylvania but across the nation.

But let's get back to the fellow who started this story—the out-of-step soul of today who wishes himself back in the "Good Old Days." We're beginning to believe, after a bit of careful thought, that he would be just as unhappy back there as he is today in our time.

For even in those days there were those who wished they had been born a half century before that. For example, the pages of RECREATION carried this lettered lament after describing a trip to Wyoming in 1888:

"**The trip was most interesting . . . and when I came again to the fences and beaten tracks of civilization it was with a pang of regret. While I do not shoot with as much eagerness as of old, I take an increasing pleasure in getting away from the stuffy towns to where the untrodden grass grows and vast, lone mountains rise.**"

Proving that even in the "good old days" of 60 years ago an "outdoor" soul longed for more elbow room.

It also probably proves that each of us who might occasionally hanker for the kind of outdoor opportunities enjoyed by our forefathers had better realize that 50 years from today an equally kindred spirit might wish he had enjoyed with us the outdoor advantages of mid-20th century. It might also serve to remind us to enjoy to the fullest the outdoors we now have—as well as to manage resources with an eye for that fellow who is to tread the outdoor trail of tomorrow.





WALKIN' SHOES

By NED SMITH



Trees in Bloom

1. Dogwood flowers are white. True or false?
2. What is meant by the botanical term, a *perfect* flower?
3. Why are so many tree flowers inconspicuous?
4. Do pine trees produce flowers?
5. Can you name three trees that produce catkins?
6. What tree among our largest eastern hardwoods bears tulip-like flowers?
7. What is a *pistillate* flower?
8. Wild black cherry blossoms are about an inch across. True or false?

(Answers on Page 42)

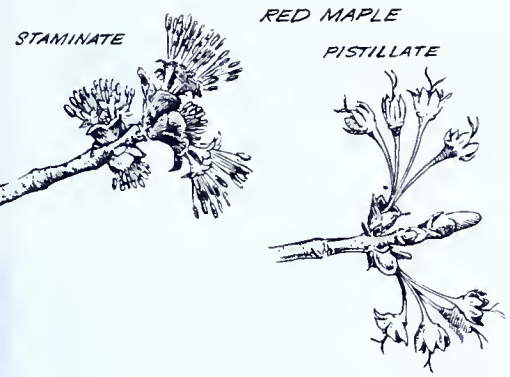
WHEN blossoms start unfolding among the stiff, bare branches of our fruit trees even the most skeptical among us must admit that spring has finally arrived. There's something irrefutable in the dazzling whiteness of cherry trees or the sea of blossoms that only last week was a dreary apple orchard.

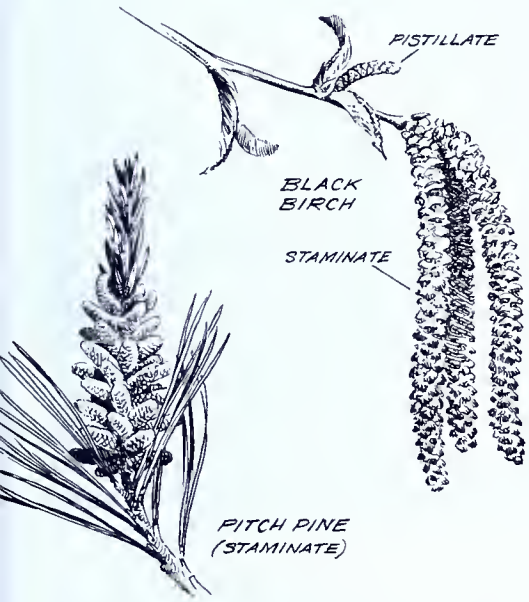
Yet, these showy favorites are not the first to bloom. Weeks before they show a petal others have already borne their blossoms without eliciting a glimmer of attention from the neighborhood tree-watchers who are breathlessly awaiting bigger things.

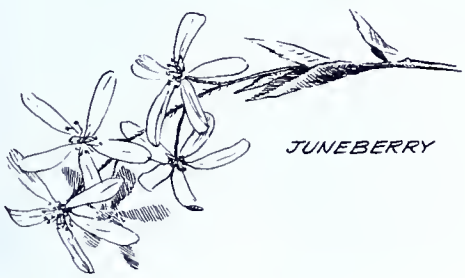
Remember the yellow-green fluff that appears on the twigs of the Norway maples in front of your house early each spring, and later lies on the sidewalk like chartreuse snow? That litter is composed of tiny flowers—in the maple's opinion, at least, the equivalent of the apple tree's striking display. Elm trees are another example of familiar trees that flower long before the fruit trees, but usually do so unnoticed.

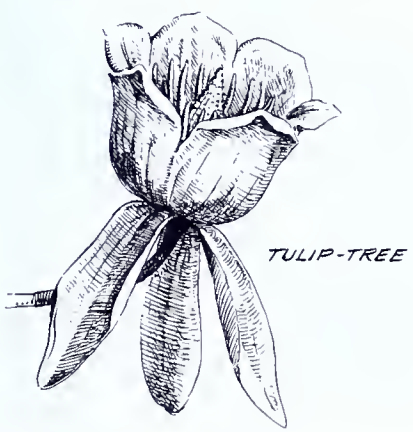
All trees bear flowers, but comparatively few of these blooms are familiar to even the gardener or the weekend hiker. For example, could you describe the blossoms on the shade trees around your own home? Who has noticed what an elm blossom really looks like, or an oak, or a pine flower? Of course, these are pretty inconspicuous examples, but it's amazing how few people are familiar with the showy blossoms of the black locust, or the large and lovely "tulips" of the tulip tree.

Typical tree flowers are noticeably different from the more familiar blooms of our flower gardens. Comparatively few trees bear perfect flowers, that is, flowers that combine both male and female flowers in one. In most cases the two sexes are represented by different flowers—the staminate flowers producing pollen containing the male germ cells; the female, or pistillate flowers producing the seeds. Usually both male and fe-









male blossoms are found on the same tree, but in some species the male and female flowers are found on separate trees.

Solitary blooms, like those of the apple, magnolia, and tulip tree, for example, are in the minority. Those arranged in clusters—technically classified as spikes, racemes, umbels, etc. —are much more common.

Not many tree flowers are conspicuously large or colorful, like the apple or cultivated cherry blossom; by far the larger number are small and inconspicuous. In this connection, it is interesting to note that most tree flowers are easily pollinated by the wind. Not having to rely upon insects to perform this task they have little need for colorful or conspicuous petals to attract them.

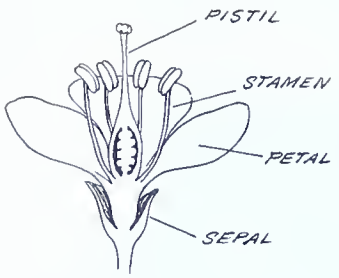
It is beyond the scope of this article to picture and describe more than a fraction of the tree flowers of our commonwealth, but I'm sure you'll be impressed by the variety of size, color, and form exhibited by these few examples. You'll surely find many more odd and beautiful types by examining the trees of your neighborhood and those of your favorite woods. But don't wait too long. Some species get started mighty early in the year.

Red Maple

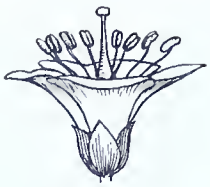
Before the leaves appear in early spring the red maple twigs burst out in fuzzy, red tufts. These are in reality clusters of small flowers. Pistillate blooms are characterized by tiny cup-shaped corollas and paired stigmas. Staminate flowers are trumpet-shaped and bristle with stamens.

Black Birch

The female flowers of the black birch are inconspicuous little pale green catkins that seldom exceed ¾ inch in length. The male flowers, on the other hand, are large catkins three to four inches long when mature. Hanging limply from the tips of the drooping branches in groups of two

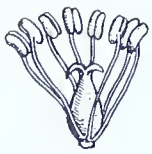


PARTS OF A FLOWER



COMPLETE FLOWER

CONTAINS ALL FLOWER PARTS SHOWN AT LEFT



PERFECT FLOWER

NEED CONTAIN ONLY ESSENTIAL PARTS - STAMENS AND PISTIL



PISTILLATE FLOWER

CONTAINS ONLY PISTIL, NO STAMENS



STAMINATE FLOWER

CONTAINS ON STAMENS, NO PISTIL

to four, they are a pretty sight as they sway in unison at the urging of each puff of breeze. These male catkins are composed of a host of very small yellow flowers heavily laden with golden pollen. Aside from the birches, many other trees bear flowers in the form of catkins—walnuts, hickories, aspens, willows, and oaks, to mention a few.

Pitch Pine

If you want to see the average outdoorsman scratch his head in perplexity just ask him to describe a pine blossom. Chances are he'll find it hard to believe there *are* such things. Pines do produce flowers, though, and some of them are strikingly attractive. The pitch pine's staminate flowers grow in dense, cylindrical bodies clustered around the base of the season's new growth. In the spring they shed large quantities of yellow pollen. The pistillate flowers are small and cone-like, protruding from the infant needles.

Juneberry

Many of the Juneberries, or shadbushes, are shrub-like, but at least two of our Pennsylvania species attain tree size. They are singularly attractive, with smooth gray bark marked with dark lines, and branches that tend toward a tiered arrangement. Before the other trees are in leaf the Juneberry is made conspicuous by its drooping clusters of delicate white blossoms. The flowers themselves are perfect, that is they contain both pistils and stamens. The five white petals are quite narrow, giving the flower clusters their characteristic lacy appearance, and the stamens are green or yellow.

Tulip Tree

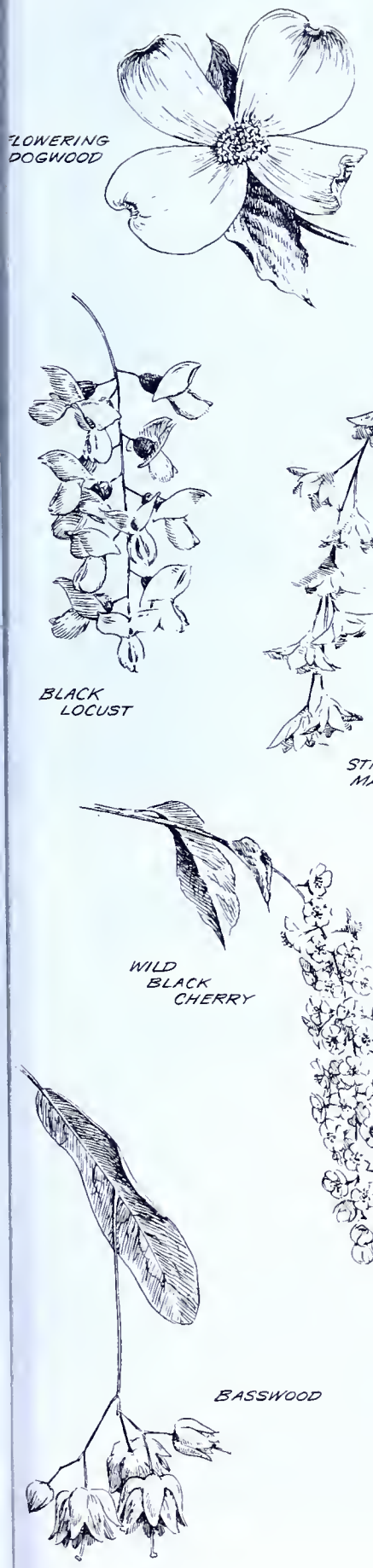
Few tree flowers can compare to the exquisite blossoms of this, one of our largest eastern trees, and yet, because of their subdued coloring and the concealing foliage not many folks even notice them. As the name implies, they are tulip-shaped — pale greenish-yellow in color with an orange chevron near the base of each petal. The sturdy stamens and the cone-like compound pistil are yellow. Three yellowish-green or yellow sepals hang from the flower base.

Dogwood

This popular little tree is a fooler. The four large white petals are not petals at all, but are modified leaves called "bracts." The true flowers are the extremely small structures that are bunched in the center. At first they appear as tubular green buds with yellow tips. Later they open to reveal the stamens and pistils that make them, small as they are, botanically perfect.

Black Locust

Walking down a country lane flanked with locust trees in bloom is the stuff of which old-fashioned songs are made. The heady fragrance alone is a treat, and the blossoms are as pretty as any that grow on trees. Hanging in loose clusters, the individual flowers resemble ivory-white pea blossoms. They contain both stamens and pistils. Bees, attracted by the fragrance, force their way into each



flower's throat and accidentally but effectively transfer pollen from one bloom to another. As the nectar they receive in exchange for this service makes delicious honey, neither the tree, the bee, nor the bee-keeper feels the arrangement is such a bad one.

Striped Maple

This attractive little maple's flowers bear no resemblance to those of most other maples. Instead of appearing as tufts of miniature blooms they resemble drooping strings of scalloped, chartreuse bells. Pistillate and staminate flowers are similar and occur on the same tree, but in different clusters. The mountain maple, another tree of small stature, bears its flowers in erect clusters of mixed sexes.

Wild Black Cherry

Provided caterpillars are not already tenting among its branches an open-grown wild cherry tree in full bloom is a mighty pretty sight, with pendant clusters of white flowers hanging from every slender, drooping twig. The individual blossoms are about ¼ inch across, and each contains five rounded petals, as well as both male and female parts. The choke cherry, a smaller relative with short-pointed, broader leaves has similar, but slightly larger, blossoms.

Basswood

Probably the most pleasing feature of these attractive blossoms is their exceptionally sweet fragrance. Small wonder the bees are attracted to the basswood in such phenomenal numbers. (Incidentally, basswood honey is just about the best.) The ivory-white or cream-colored flowers are loosely clustered at the end of a long stem that is in turn attached to a strap-shaped bract. A prominent white pistil and numerous tan or ochre stamens reveal that these flowers are botanically perfect. Most folks will agree that they are pretty nearly perfect from an aesthetic point of view, as well.



H. Armstrong Roberts Photo

Not With Gold and Silver, but the Priceless Treasure of the Memories We Shared

My Son Left Me Rich

By Ewart A. Autry

IT WAS the last hour of the last day of the duck season. My 17-year-old son, Jerry, and I waded cautiously through mud and water and swamp grass. Ahead of us we could hear a flock of mallards frolicking in a hidden pool. Each of us lacked only one of having the limit. We shivered from the cold wind which strummed through the cypress tops and sawed through the grass. But we kept our course and neared the noisy ducks.

Then a crow, passing overhead, saw us and gave the alarm to everything within hearing. The ducks came up with a vast quacking and beating of wings. But the range was good. Each of us fired only once, and each shot dropped a drake. We had our limits, so we stood still and watched the

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frightened flock climb above the cypresses and beat westward into the face of the low sun. "Over the trees and far away," my son remarked as they became shimmering dots on the horizon. "There'll be another season, though," he promised, "and another day, and we'll be back after you."

Victim of a Rare Fungus

A few weeks later my son was dead, victim of a rare fungus which top specialists could do nothing about. It was hard to realize that one who had always been so strong and healthy could pass so quickly. But this is not the story of my sorrow. Rather it is a story of triumph and victory. Perhaps it is the same triumph and victory experienced by other fathers whose sons have grown up and left them, or whose sons have perished forever from this earth—the triumph and victory of fathers who have known the privilege of hunting with their sons. Maybe the brief telling of it will encourage other fathers who are trying to teach their sons to hunt, or those who face the day when the hunting partnership will end.

It was late afternoon when we came home from the white church and our grave with its multitude of flowers. The bird dogs greeted us by pressing their noses against the kennel fence and whining softly. The small squirrel dogs scampered around the yard, while the old fox hound lifted her nose and howled softly. I walked through my son's room and was aware of his guns in their racks and his fishing tackle in its special corner.

Never Hunt Again

In those moments I was very sure that I would never hunt or fish again. I would sell my dogs, my guns, my fishing tackle, and everything which reminded me of the outdoor trails. I could never bear to walk those trails again. That's the way I felt that day and many days thereafter.

Then things began to come a little more into focus. I began to realize



that my son had left me an imperishable heritage of golden hours spent together on the trails. I am not one to live in the past, but the golden hours of the past can be bundled up in memory and carried along the way.

It's never easy to teach a boy to hunt and fish. I was often tempted to let my boy learn it in his own way while I went out alone or with seasoned hunters. It would have been much simpler for me that way.

First Hunt

His first hunt was a still hunt after squirrels. He tried to walk silently with me through the woods, but his feet seemed to tangle in every limb. Finally we came to a hickory nut tree where the squirrels had done some fresh cutting. I left him there and went on to another tree 300 yards away. In a few minutes I heard the pinging of his single-shot .22 rifle. After at least a dozen pings I heard him running toward me. When he came within sight I saw that he was holding a fox squirrel by the tail.

"I got him, Dad!" he shouted when

he saw me. "Got him right in the head."

He had left his rifle somewhere back in the leaves. It took us 30 minutes to find it. By that time all the squirrels in those woods were scared to parts unknown.

On our first rabbit hunt he blasted away at a big swamper with his single-barrel 20-gauge. His shot was so far off target that the big rabbit stopped, reared on his hind legs, and looked around to see what it was all about. My son was so astonished at his antics that he forgot to reload until the rabbit fled into a thicket.

On our first night fishing trip we slept beside the river. It was a night when swamp owls were laughing like crazy and red foxes were howling their love songs. The weird sounds were too much for the boy. I noted that he was wide awake and staring into the darkness. So I threw more limbs on our dying fire until it blazed brightly. Then I sat in its light where he could see me until sleep came and shut out the voices of the owls and foxes.

Our First Deer Hunt

He was greatly excited over our first deer hunt. I stationed him on a rock which commanded a good view of a narrow valley. I left him on the rock and went on down the ridge.

Not more than 15 minutes later I heard his gun roar twice in rapid succession. Then he began to yell. I hurried back up the ridge. As I neared the rock where I had left him I saw his gun lying across the rock. He was nowhere in sight.

But when I reached the rock I saw him down in the valley. "I knocked him tumbling!" he shouted, his voice trembling with excitement. "I knocked him tumbling twice, but he got up and went on. He was as big as a horse."

And that's what he had done—knocked a big buck down twice. The sign was there where the deer had fallen, and a trail of blood led away through a thicket. We followed the trail until darkness came. Then at dawn we took it up again, but finally lost it in a series of tangled thickets. "I could have finished him off," the boy said in disappointment, "if I hadn't left my gun on the rock."

A Box of Shells

On our first day after doves he fired a box of shells without touching a feather. Then I sat down beside him and tried to teach him how far to aim in front of each passing dove. He got six out of the next box of shells.

His days of inexperience and ineptitude passed quickly. We were soon hunting on equal terms. The mating call of the horned owl became our signal on the trails, and we used it as long as he lived. We learned it so well that we could speak back and forth in the woods without disturbing the game. After we had separated on a hunt we used no other language.

On the days of his first hunts I had felt a great weight of responsibility. I helped him across river logs and through all kinds of rough places. I taught him how to handle a gun, how not to get lost, how to recognize poisonous snakes, and how to play it fair with the wild things of the woods. It was my responsibility to look after him in every way possible.

But this responsibility soon went into reverse. I found him feeling responsible for me. He began to take the rough places, to swim the river after our ducks, and to send out his owl queries to know if I were all right. His reflexes became much faster than mine, and I often found him lowering his gun so that I might have a chance to shoot. Our skills remained about the same, and there was always a delightful rivalry between us.

We Fished Them All

We fished every stream and lake within reach, and journeyed several times to fish in the Gulf of Mexico. We hunted everything there was to hunt in this section including deer,



H. Armstrong Roberts Photo

OVER THE YEARS we fished every stream and lake within reach and hunted everything there was to hunt. It is never easy to teach a boy to hunt and on our first hunts together I felt a great weight of responsibility.

turkey, duck, woodcock, quail, rabbit, squirrel, dove, and fox. During all of this he was keeping his school work in good shape, and was to graduate as class president and co-valedictorian of his class within three weeks of his passing from this earth.

So, at 17 he was gone. After days of bleakness, I began to count the treasures he had left me. I was rich beyond words—rich in a treasury of golden hours. I could bury them and let them become dim and indistinct, or I could walk the same trails again and keep them forever bright.

So there came a day when I went back to our boat. My son had tied it with his own hands. I dipped my paddle and went out through a trail he and I had cleared in the backwater. I fished the same spots we had fished many times. In that experience I felt a nearness to him that I hadn't felt since he went away.

Back at home I took down the guns and cleaned them carefully. When the dove season opened I went back to the field he and I had shot over last season. The doves were plentiful, so I had the limit in an hour. As I walked back to the car I felt a deep pride in the thoughtful son who had bequeathed me so much.

The duck season hasn't opened yet, but many of the ducks have already arrived. I've seen them flying up and down the river, and I've heard them quacking as dawn crept across the bottomland.

On opening day I'll go back to the place of swamp grass and cypress trees. The wind may be there with icy fingers, but that won't matter. I may pause for the familiar call of the horned owl. But then I'll move on to the hidden pool. The ducks will vault skyward, and I'll shoot. Then, as the hills toss back the echoes of my gun, I'll watch the frightened duck go away. I may even repeat the words of my son, "Over the trees and far away."

But in those moments there will abide with me a heritage of golden hours which will be mine forever.

Land Managers Plan 1962 Operations, Report '61 Activities

Pennsylvania Game Commission personnel responsible for the establishment and improvement of game food and cover on State Game Lands, Farm Game Projects and other areas have planned their 1962 spring and summer programs and ordered lime, fertilizer, seed and equipment with which to accomplish their objectives.

During January the six field division supervisors, their land management assistants and land management officers held their semi-annual conference with the land management staff in Harrisburg.

The food and cover operations detailed below indicate the dimensions of the Pennsylvania program during 1961.

1. Cut more than 1,986,000 linear feet of forest growth an average width of 45 feet along field borders and roads.
2. Planted supplemental game food (small grains, clovers and grasses) on 2,614 acres.
3. Mowed 7,659 acres to provide succulent rabbit and deer food.
4. Maintained 1,765 miles of Game Lands roads, as well as 1,680 gates.
5. Planted and furnished 2,003,000 tree and 2,344,000 shrub seedlings which will provide food and shelter for wildlife.
6. Constructed 4 dams and one dyke for waterfowl.
7. Purchased 2,911 bushels of seed, 2,214 tons of fertilizer and 5,804 tons of lime.
8. Purchased 157,709 bushels of corn for winter feeding.

Equipment acquired last year to augment existing equipment or replace that worn out included: 27 trucks, mostly ¾-ton capacity stake bodied, equipped with dual traction rear ends and heavy duty motors; 51 chain saws; 15 tractors and attachments, 3- to 5-plow size; 1 carryall (scraper pan) of 20 cubic yard capacity; and 1 barge, 50 by 12 feet by 2 feet deep, powered by a 40-horsepower motor, to transport equipment between the shore and Commission-owned islands in the Susquehanna River.

Two 30-ton bulldozers were purchased for construction and food and cover work. These units will be utilized 6 months of the year for general food and cover development work on State Game Lands and leased areas. During the summer and fall months 'dozer operations will be devoted to dam and dyke construction for wetlands for waterfowl.



EARTHWORMS CONSTITUTE the major portion of the woodcock's diet. Investigations have shown that from 50-75 per cent of the bird's bill-of-fare is earthworms with insects, which include beetles, caterpillars, and grasshoppers; and seeds, such as from sedges and blackberries, making up a smaller but important part of the woodcock's diet.

The Pennsylvania Woodcock Study

(Second of a Series)

By Steve Liscinsky
Game Biologist

Photos by the Author

Foods and Feeding Behavior

AN IMPORTANT feature in the life of any species is its food requirements. With some species it is even more important than with others. The more specific the nature of the required food the more serious the problem. And so it is with the woodcock.

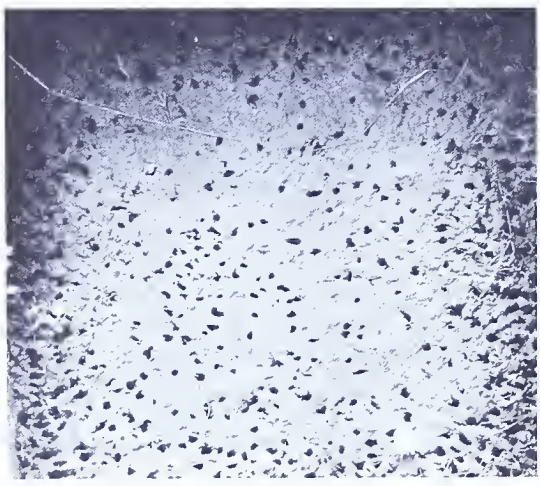
It is a well known fact that earthworms constitute the major portion of the woodcock diet. Several investigators have reported this fact (Sperry, 1940; Mendall, 1943; and Miller, 1957). These investigators found that 50 to 70 per cent of the woodcock's diet consisted of earthworms. Insects, which included beetles, caterpillars, and grasshoppers; and seeds, such as sedges and blackberries, made up a smaller, though significant part of the bill-of-fare. It is suggested that most

of the seeds were eaten in the process of feeding on the animal matter. Valuable as this information is, it now behooves us to learn something about the various food items and their specific relationship to woodcock and woodcock habits.

To shed some light on this subject limited studies were conducted in some good Pennsylvania woodcock areas and on a number of captive woodcock. A report of the findings from the habitat investigations will be presented at another time. However, it was obvious that when and where earthworms were scarce or unavailable, woodcock were also few or absent.

The studies of captive woodcock revealed a number of very interesting and useful facts. Not only was the amount of food needed to sustain woodcock determined, but also the variety of unusual food which they would eat was disclosed. In addition, an opportunity was thus provided to observe the manner in which woodcock found and ate their food and the preference they showed for feeding in several types of soil. Such information was indeed helpful in verifying observations made in the woodcocks' natural environment.

PROBING TRAYS such as this were used in the study to find out the woodcock's preference for various types of soils and food. The small holes are the marks made by the bird as he probed for food.



Nutrient Composition of Earthworms

That earthworms compare in nutrition to a good grade of beef, liver or fish was proven by Dr. C. E. French at the Department of Animal Nutrition, Pennsylvania State University in 1957. An analysis of three species of earthworms showed that after all body fluid was removed by drying, the remaining matter contained a high percentage (53-64) of protein and sizable amounts of fat and energy (the earthworm contains 83 per cent moisture and 17 per cent dry matter). They were low in carbohydrate, however, and contained large amounts of ash. The high ash content is partially due to their eating particles of soil which could not be scoured from the worms prior to analysis.

Variety of Foods Eaten

After learning that woodcock would eat readily during daylight hours, making it easy to observe feeding activity, a number of different food items were presented to the captive birds. These items included night crawlers, garden worms, meal worms, fly larvae, small grasshoppers, and slivers of venison, fish and luncheon meat. A tabulation of the quantity of these foods given as well as the quantity consumed by two woodcock is listed below. The food consumed amounted to approximately 2 ounces per bird per day.

Food of Two Woodcock During Five Days of Captivity

	No. of Food Items	
Kind of Food Given	*Given*	*Eaten*
Night Crawlers	65	46
Garden Worms	520	470
Fly Larvae	180	150
Meal Worms	125	110
Grasshoppers	30	18
Deer Liver	17	13
Deer Steak	10	6
Luncheon Meat	10	10
Fish Fillet	5	0



EARTHWORMS BEWARE, here comes Mr. Timberdoodle. This series of pictures taken by the author shows the interesting method in which the woodcock finds food. With that long, pliable bill, he probes the earth until he hits an earthworm. Then he pulls it out of the ground and eats it.

A brief explanation of the woodcock's reaction to the various food items is necessary at this point. Live earthworms were always the preferred food. Sometimes the larger ones were taken first, sometimes the smaller. Dead earthworms were rarely ingested. Fly larvae and meal worms were readily accepted when earthworms were not available. Grasshoppers would not be eaten unless the wings were removed; although occasionally they made attempts to eat the winged version. The slivers of meat were seldom taken unless they were placed in a shallow (⅛-inch) pool of water. Apparently the water kept the slivers soft and worm-like. The slivers of fish were never eaten or picked up by the woodcock.

Quantity of Earthworms Eaten

The quantity of food that woodcock can eat has often been recorded in literature. Some have noted that woodcock eat their own weight in food daily. Others have stated that woodcock can eat twice their weight in 24 hours. Be that as it may, this writer found that woodcock can be kept alive and in good health on approximately one-half their weight in food daily.

During 12 days of captivity two woodcock were offered about 5 pounds of earthworms. Sixty per cent, or about 3 pounds were consumed. This averaged approximately 2 ounces per bird per day. The range in the amount of earthworms eaten daily was from ½ to 3½ ounces per bird. By the 12th day each of the birds had experienced a weight loss of 30 per cent. At this time they were released in the wild appearing none the worse for their experience.

On the other hand two additional woodcock were subjected to drastically reduced diets after five days on ample feed. Three days after being placed on the restricted diet both birds died. One had lost 40 per cent of its original weight and the other 42 per cent. It appears then, that woodcock normally lose weight in captivity and can withstand losses up to 30 per cent.

On the basis of the above data it is suggested that woodcock can be adequately nourished with a quantity of earthworms equal to one-half their own body weight daily. With a regular diet of about 3 ounces of earthworms daily there is every reason to believe that woodcock could live over long periods with little if any loss in weight or vigor.

It is interesting, at this point, to note the probable cost of feeding woodcock in captivity. To the best of the writer's

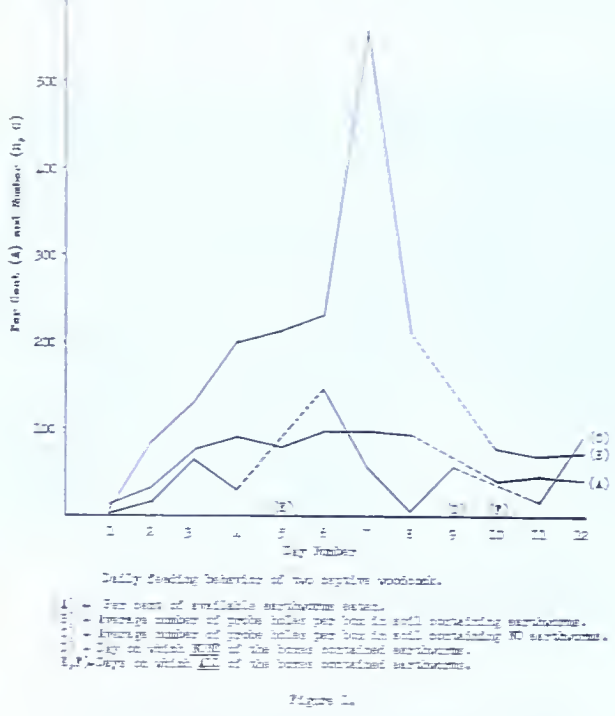


Figure 1.

knowledge, the current wholesale price of earthworms is $1.60 per pound. At a feeding rate of 3 ounces of earthworms daily it would cost 30 cents per bird per day. It should be mentioned, in passing, that it may be possible to substitute a less expensive food, such as ground or sliced meat, spaghetti or macaroni, and thus reduce the cost.

Manner of Eating Earthworms

To describe the actual feeding behavior of woodcock a direct copy from the writer's field notes will suffice. "August 4, 1957: 4 P.M. After placing 150 garden worms in and on the soil of the feeding chamber, a woodcock was placed inside. Within 3 minutes the woodcock began feeding. In the next 5 minutes the bird ate 22 of the worms (.7 ounce); seeming to eat until it could hold no more. Indeed, the last few worms dangled from the corners of its mouth until space was somehow made to allow him to eat more. In the process of eating it selected a worm from the surface or extracted one from within the soil (soil depth 1 to 1½ inches), straightened the worm out in its bill, using a foot if necessary, and quickly swallowed. Occasionally a worm was eaten in a doubled-up position. The worms were reached for, or probed for, with a slightly opened bill. Often the worm was dropped to permit a better position for swallowing; namely, end first. A number of times the woodcock hammered its bill on the bottom of the box, where there was little or no soil, as if to remove excess soil which accumulated on its bill. While swallowing the woodcock frequently moved its body up and down as if it were necessary to aid its eating. After stuffing itself, the bird walked about stretching, ruffling its feathers, and again moving its body up and down in a peculiar fashion. Soon after it closed its eyes as if in sleep."

Another phase of the study dealt with the woodcock's ability to detect worms under varied soil conditions and preference for the earth he probed.

In order to do this, a series of boxes were embedded in the soil within the enclosure. Two boxes were filled with sand, two with loam, and two with clay. Precautions were taken to prohibit the escape of the earthworms and to insure easy accessibility of the worms to the woodcock. Detailed records were kept daily on the amount of earthworms presented and eaten, and the number of probe holes for each box.

Preference for Soils

It has long been suspected that woodcock obtain most of their food from soils not excessively sandy. Areas along stream bottoms which are suitable as woodcock feeding areas are sometimes destroyed by large deposits of sand washed up during spring floods. When this happens the earthworm supply is drastically reduced, and in turn, woodcock do not frequent the site.

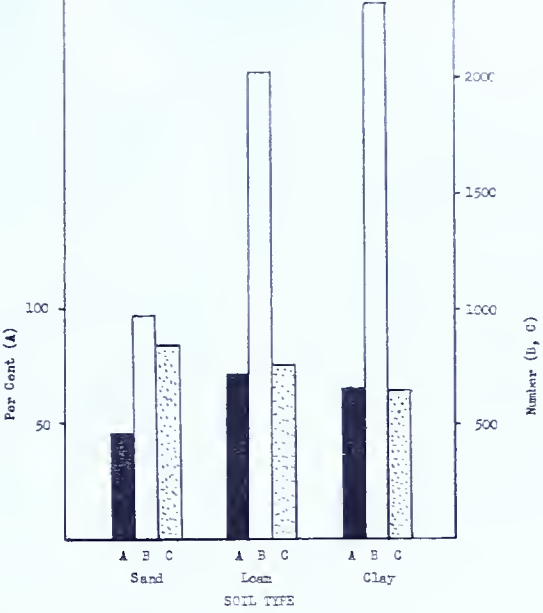
Inherently then, woodcock may refrain from attempting to feed in such soils. This was found to be somewhat true in the feeding tests with captive birds. Whereas only 46 per cent of the earthworms placed in sand were utilized by woodcock 64 and 71 per cent of those placed in clay and loam, re-

spectively, were utilized. Probing was heaviest in clay, next in loam, and least in sand when the soils contained earthworms, but the reverse was true, though to a lesser extent, when the soils contained no earthworms. It was also noted that woodcock often refused to eat the worms they extracted from the sand. This data is graphically illustrated in the table below.

Ability to Detect Earthworms in Soil

Evidence accrued in the study showed that woodcock may, to a certain extent, detect earthworms in soil. The graph shows that the soils containing earthworms were probed more often than those which did not. This difference occurred even when the boxes were reversed. However, the data indicated that the process of trial and error was the normal procedure. In other words, the woodcock probed about until it found worms; then it would concentrate where finding was best.

From this phase of the woodcock management study we have acquired a better understanding of still another important part of the life history of the woodcock. We have found what foods woodcock will eat, how much they require, and how they go about feeding. The implications to management are quite obvious. Subsequent articles will reveal how these findings support observations made in the field, and how important various related factors are in the life of the timberdoodle. *(Pittman-Robertson Project W-50-R)*



Captive Woodcock Feeding Behavior on Three Types of Soil.

A - Per cent of available earthworms eaten.
B - Number of probe holes in soil containing earthworms.
C - Number of probe holes in soil containing 50 earthworms.

Figure 2.

DEER MORTALITY DURING 1961 SETS RECORDS

Known deer mortalities in Pennsylvania last December, not including deer harvested in season, were:

Crop Damage	*Vehicles*	*Illegally Killed*	*Miscellaneous*	*Dogs*	*Total*
74	1,109	1,675	103	41	3,002

Recorded deer mortalities during all of 1961, exclusive of those legally harvested by hunters and those lost through winter kill, were:

Crop Damage	*Vehicles*	*Illegally Killed*	*Miscellaneous*	*Dogs*	*Total*
1,284	9,326	2,904	757	1,009	15,280

Known deer losses in Pennsylvania during 1961 were higher in all categories than in either 1960 or 1959, as the following totals indicate:

	Crop Damage	*Vehicles*	*Illegally Killed*	*Miscellaneous*	*Dogs*	*Total*
1960	1,201	7,187	2,478	497	622	11,985
1959	1,110	7,047	2,675	695	445	11,972





PENNSY WHOPPERS

By H. R. Wambold

LOCAL natives and hunters in all parts of our great state possess the ability to spin some real tall ones. Most of these stories are told for the good clean humor found in them, and make for some good laughs in camp and around the stove in the little general store in the mountains.

I like the one told around Sullivan County about the smart buck they called "Super Jet Jimmy." As Joe put it, "Man that buck could really run." Then he added, "I saw him actually outrun a bullet from a fella's 30/06 one day. You see the buck was running directly away from this guy at the time he was shooting. He just

Everyone enjoys the tall stories of hunting tales. Many are intended to afford amusement and never told to claim truth. Here are a few heard in past years to brighten the winter months between hunting seasons.

poured a bit more on and ran a piece farther until the bullet was spent and dropped to the ground. Then when he heard that bullet plunk into the ground he would stop and look back."

I obliged and took the bait asking, "did you ever get him?" Grinning Joe answered, "we tried for years but he was too fast for us. Then this old boy name of McCluver from the other side of Dushore finally outsmarted old Super Jet.

"This old boy had heard how this buck made a fool out of all of us, and how he had outrun such calibers as '06, 270, 300, etc. So he came to hunt with an old 45/70 rifle.

"Well we were out about an hour when we jumped old 'Super Jet Jimmy.' As he lit for the next ridge old Bill raised his rifle and let go with two shots so fast it sounded like one. Well old 'Super Jet' just slipped her into overdrive and made it to the far ridge where he finally stopped and looked back our way. He must have stood there about a minute when he fell over stone dead!

"We got over to him and found a neat hole smack in his heart, old Bill had outsmarted this buck something fierce."

Turning to Joe I asked, "how in blue blazes did you do it?" Joe said, "I asked old Bill the same question."

Old Bill spat his chaw and replied, "'twasn't too hard, I jest aimed my first shot to hit the ground a mite below that far ridge, where I knew he would stop to look back. When he heard that first shot hit the ground he figured he had outrun the bullet, and stopped to laugh. But my second shot which I got off quick enough to make it sound like one was held a mite higher. Jest where I figured that buck should be on top of that ridge when the bullet got there. Being a bit slow getting there it took awhile to get to him—but when it did it sure caught him flat-footed!"

Joe continued, "well when we skinned that buck we found that the bullet had been so slow and traveled so far that it barely penetrated inside the skin. I reckon old 'Super Jet Jimmy' plumb up and died from sheer surprise!!"

SITTING in the general store up in Pike County one evening I heard the local cadre snowing one of the younger hunters with a whopper of a bear story.

This bear was supposed to have been killed just outside of town on the nearby ridge. It had taken 32 shots to down him, and when he fell it had broken several windows in town as well as tearing down two wash lines loaded with wash. There was enough meat for everyone in town, and it took six men two days to skin and cut up the carcass.

I noticed as the stories continued that this youngster was trapped in the fever of this tall story festival. Finally not being able to stand it any longer he got the floor.

Telling them of a coon hunt they made back home at which time they came to a small creek during the height of the chase. A fallen log was the only means of getting across, and everyone made it but this one lad. As he was scrambling across he slipped and fell, but managed to stay on the log. The lantern he was carrying fell into a deep pool and sank to the bottom eight feet down.

Claiming that to this day you could walk to that pool in the creek and see that lantern burning on the bottom,

he turned to the bear story teller.

"Now how about it, that bear wasn't as big as you claimed—was it?" Slowly lighting his pipe the older man said, "tell you what boy, when you get home you go down to that creek and blow out that lantern, and I'll shrink that bear a couple or three hundred pounds!!"

WHICH reminds me I had a bird dog some years ago, named him Quinnie—he was a wonderful hunter. One day to my surprise I found him stealing eggs out of the nests in the hen house while I talked with the farmer before doing a little hunting. I was quite embarrassed when we caught him and ready to whop the daylights out of him!

My farmer friend said, "wait, we'll cure him of that very easily. Next time you come out hunting call me before you start, and I'll have the wife hard boil some eggs and have them ready scalding hot. When he picks one of them out of the nest he will burn his mouth."

That sounded good to me, and the next week I called and told him I was on the way out. By the time I got there the stage was set, and while we talked we saw Quinnie sneaking into the hen house.



A moment later we heard a yelp and out came Quinnie. Lying down in the yard he looked at the hen house quite sheepishly. "See what I mean—it worked," the farmer said, and I left and did a little hunting.

Well that dog didn't go near that hen house for the next two trips. But during the third trip while I talked with the farmer before hunting I noticed that the dog was missing.

Sneaking over to the hen house we looked in—there was Quinnie stealing eggs in high fashion with one exception. Being a smart dog he didn't forget, and blew each one before he picked it up in his mouth!!

A LOCAL guide in the Pocono Mountain area tells the one about his brother who was such a great duck hunter.

One day while hunting he winged a mallard hen and took her home alive. His wife pitied the duck and would not allow him to kill it. So they nursed it back to health and it became a pet.

Naming her Mabel he decided to take advantage of the situation and train her to be a live decoy. Spending many days he finally trained her to swim around on a pond quacking loudly. When the ducks started coming in she would dive to the bottom and hold onto a root of grass until he fired his three shots. This way he would not shoot her by mistake.

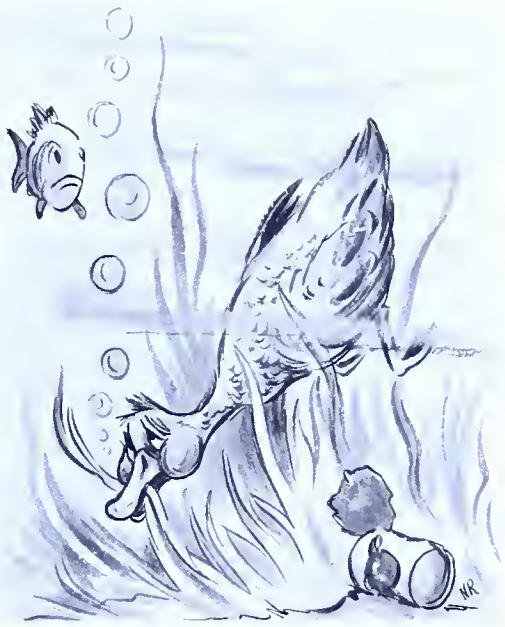
He had two good seasons with Mabel as his decoy, and she seemed to enjoy her role of Mati Hari immensely. Then the night before the opener that third season his pump broke as he was cleaning it.

He called all his friends but everyone intended to hunt the following morning. Finally he found one guy who had an old double-barrel he could borrow.

The following morning he packed Mabel and his gear and headed for

his favorite pond. Placing Mabel on the pond as daylight came, she swam around quacking loudly and alluringly. Then the ducks came in and Mabel dove to the bottom and held onto a grass stalk.

But poor Mabel drowned as she held on waiting for that third shot!!



DID I ever tell you about the guy who had the beagle hound that was trained to sit on the hole to keep the rabbit from "holing up?" Well this fellow had a dog . . .

DEER MANAGEMENT ARTICLE AVAILABLE

The article "DEER MANAGEMENT . . . Up to Date, Up to You," which appeared in the December, 1961, issue of Pennsylvania GAME NEWS aroused much interest among farmers, foresters and other groups, as well as shooter-sportsmen. This brief article has been reprinted and now is available, without charge, at the Game Commission headquarters in Harrisburg and at all the agency's field division offices.

DEER MANAGEMENT was written by Harvey A. Roberts, Chief of the Game Commission's Research Division. It covers the history of the deer herd in Pennsylvania from the early 1900's, tells what controls are necessary and explains why the antlerless deer license is the most important tool available to the deer manager.

Presented in non-technical style, DEER MANAGEMENT provides a wealth of information relative to the herd in past, the need for continued management and prospects for the future.

REVISED PROGRAM WILL PROVIDE MORE FOOD AND COVER FOR RABBITS

Experience has shown that the 8-foot-wide food strips of clover and blue grass established on woodland trails on State Game Lands provide an abundance of food for cottontail rabbits. Wild turkeys, deer and other wildlife also benefit from the clover-grass strips. This program will continue.

The Game Commission will increase the width of field and forest edge cuttings this year. The goal is to cut 100-foot-wide strips of woodland around field edges. This increase over the conventional 25-50 foot width will provide additional protective cover for cottontails and game birds.

He Is a Noble and Majestic Bird
Content to Get Food as a Scavenger



Photo by Karl H. Maslowski

PYMATUNING EAGLES

By Ray Sickles
Waterfowl Management Agent

THE first time I observed a little female blackbird harass and chase a bald eagle from the vicinity of the blackbird's nest, I was greatly surprised and somewhat amazed. Here was a large bird, our National Emblem, and supposed to depict power, courage and resourcefulness, a bird that was "King" of the bird world, in retreat. I had read stories of bald eagles carrying away human babies, attacking man, and fighting off wolves and dogs to protect their young. However, this was my first experience with bald eagles and I could not believe that this "fierce" bird was running away from a fight with a little blackbird.

Since that time I have spent twenty-three years of close association with bald eagles at Pymatuning in northwestern Pennsylvania and I have changed my opinion of them in many ways. Each year since 1936, when Pymatuning Lake filled with water, there has been at least one pair of

eagles nesting within the Pymatuning Refuge. The first nest was built in a large elm tree in an isolated portion of the marsh. By 1941 this nest, through annual addition of nesting material, had become enormous in size. The elm tree, because of flooding of its roots by the establishment of the lake, had died, and in June 1941 a storm blew down the tree and nest.

A Strange Thing Happened

That fall I witnessed one of the strangest oddities of nature in my experience. During October and early November, the adult eagles carried sticks, grass, leaves, corn fodder, and hemlock boughs and built a new nest. This is the only occasion that I have known of nest building in the fall season. The eagles must have realized that it would be difficult to gather material and build a nest in time to lay eggs by March the next spring. This new nest was built in a beech tree located on a small island within the refuge. The island was easily accessible by boat and it was not difficult to climb a hemlock tree nearby and look right into the nest. I have made many visits to the nest and the parent birds would always fly away and sit at a distance until I had departed from the island. Even if the young eagles were handled, the parents would not respond to the young's cry for help.

Diet of Fish

Observations indicated that fish comprised 90 per cent of the diet of the young eagles while in the nest. I do not recall that I ever visited the nest during the rearing season without finding fish there that the fledglings had been feeding upon. On one occasion I found a very small duckling which had been brought to the nest by the parents to feed the young.

The young eagles were not successfully reared in some years. On one trip to the nest, I found that both young eagles had been killed and partly eaten the night before. I assumed that a raccoon had been responsible because the bones had been crushed and eaten by some tree climbing animal. I knew that a bird of prey would have pulled the flesh from the bones. In addition to the dead young, at the edge of the nest were three bullhead catfish and two field mice that the old birds had brought to feed

UNTIL LAST YEAR, eagles have nested at Pymatuning every year since the lake was filled in 1936. This nest could easily be seen from the front porch of the Pymatuning Museum. However, the nest eventully fell from the rotting tree which held it.

Photo by Hal H. Harrison





Photo by Hal H. Harrison

NEST CHECKING is no easy job when the owner is an eagle. Former Refuge Keeper at Pymatuning, Bert Oudette uses pole climbing equipment here to photograph the young eagles some 15 years ago.

the fledglings since their death.

On another occasion I visited the nest just shortly after the female had begun to incubate her eggs. I found that both eggs had been eaten and the shells scattered about the nest. Again I suspected that a raccoon was responsible. I was concerned whether or not the female might lay another clutch of eggs since she had only incubated a few days. I found later that another clutch was in the nest.

The Nest Has Fallen

Each spring the eagles pile more material on the nest and sometimes it becomes too heavy for the tree to support. Twice I have observed where the weight of the nest had broken the limb supporting it and the nest and young had crashed to the ground. Both of these nests were situated in white pine trees. Each time the young were found dead and partly eaten near the nest. It was hard to tell whether or not the fall killed the young birds because they were subsequently eaten by ground predators.

I have good reason to believe that a bald eagle cannot pick up and carry an object weighing more than five pounds. I have observed them attempting to pick up and carry dead fish that I estimated weighed five pounds. I have seen them try to pick up and carry a dead woodchuck without any success. On one occasion I sighted an osprey that had just caught a large bass from the shallow waters of a small stream flowing into the refuge lake. I was surprised to see that the bird pulled the eyes from the fish and ate them while the fish was still flopping. When the osprey left the fish I found that it had caught several other fish and removed the eyes from each of them. When I returned to headquarters I related my experience to a wildlife photographer and he suggested that we return to the spot and try to get pictures of the osprey. When we returned the osprey was not in sight but an eagle was struggling with a large bass and trying to carry it in its talons. We watched the eagle give up after about fifteen minutes of struggling. He then picked up and departed with one of the smaller fish. The large bass was an estimated five pounds in weight.

They Are Not Killers

I have never actually witnessed a bald eagle kill anything. I have seen them feed on dead fish, woodchucks shot by hunters, dead calves disposed

of by farmers, and dead ducks and geese. Eagles usually spot dead fish in the water before they have floated to shore and the fish make up the greater portion of their diet. They are often blamed for acts of depredation for which they are not responsible. For instance, the Commission has held four-week-old ducklings in an uncovered pen in close proximity to an eagle's nest at Pymatuning. One year after these ducklings were placed in the pen, it was noticed that heads and entrails of two ducklings were found each morning for three successive days. An eagle was very often observed sitting in a tree beside the pen and workers suspected this bird. However, further vigilance resulted in determining that the culprit was a great horned owl. On another occasion workers reported to me that they had seen an eagle kill a wild rabbit in a wooded section of the refuge and that it was still at the spot eating the rabbit. I went to the area with one of the men and found a rough-legged hawk finishing up a meal on the rabbit it had caught. In early winter, I have seen bald eagles sit on the ice a short distance from a crippled wild goose waiting for the bird to weaken and die. Many ducks and geese are shot and crippled by hunters and are able to survive in the lake until the water freezes over. Then when severe weather, exposure and lack of food results in death, these birds become food for eagles.

ACROBATS IN THE SKY are enjoyed by eagles during the fall of the year. Two birds will get to great heights, then fly at each other and lock their feet together resulting in a tumbling, head-over-heels fall toward earth. They always recover just before reaching the ground.

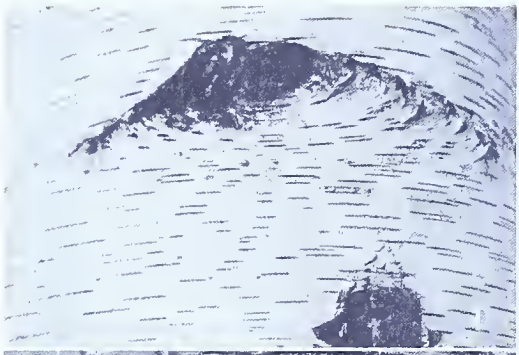


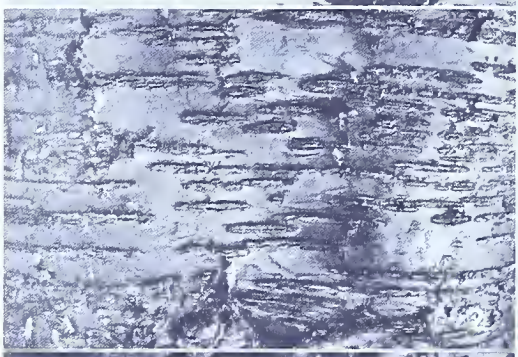
Aerial Artists

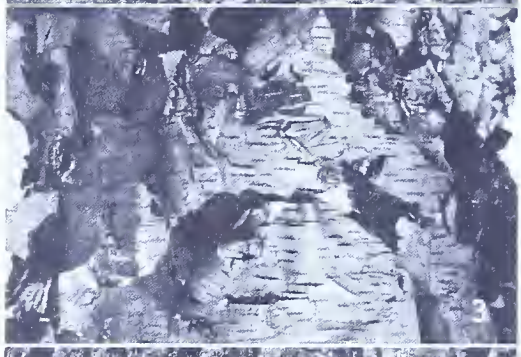
Bald eagles are most pleasant to watch in the fall season. During September and October both young and old will soar and play in the sky. They seem carefree and very playful. Occasionally, when two birds get to a great height they will fly at each other and lock their feet together and close the wings against the body. This will result into a tumbling, headlong, head over heels fall toward earth. Just before reaching the ground the birds will untangle the feet and extend the wings and fly off. I have seen them soar back up to a great height again and repeat this playful performance.

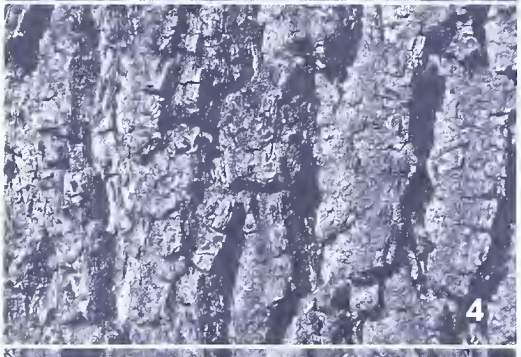
Yes, I have come to view the American bald eagle in a different light. He is not fierce, powerful, or courageous, and he is not a killer. But he is a noble and majestic bird that is content to get food as a scavenger. And he will retreat from a little blackbird or a crow to avoid a fight. And he is playful and wants to be compatible with his kind and other bird life.

They are very welcome residents to Pymatuning Refuge, but unfortunately, the eagles did not nest there last year, In fact, there is no sign of them nesting this year either. Perhaps they are becoming a thing of the past. Along with the American buffalo, the whooping crane, and the California condor, the eagle is in a struggle for survival. One thing is sure, he is passing from the scene in Pennsylvania.



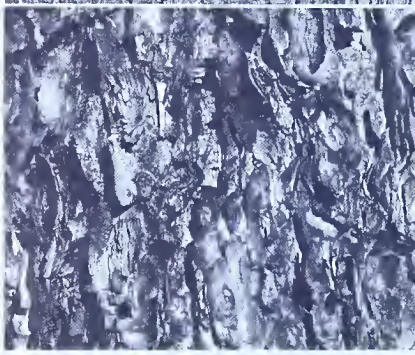












Can You N

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Outdoor

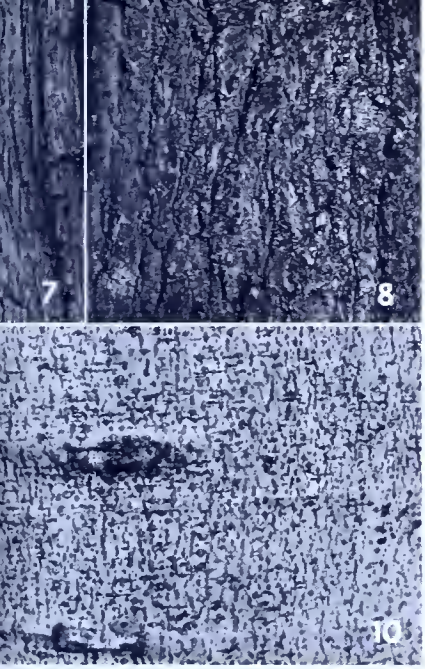
The outdoor life can teach you many things about the world of nature in which you hunt or pitch your tent. You learn how to forecast the weather by cloud shapes, and identify wild birds not only by sight but by the sound of their shrill, sweet voices.

Given a choice, most campers prefer the shade and protection of trees. They add to the attractiveness of a camp site and somehow encourage relaxation. They give deeper meaning to the outdoors, especially to those who take care to observe their graceful figure and foliage.

But how well do you know the tall trees which rear their lofty heads high over Pennsylvania's campgrounds? Here is an opportunity to check your knowledge.

Pictured on these pages are close-ups of the bark of 15 well-known trees found in Pennsylvania's back country. Listed here are the correct names of the 15 trees, but not in order of appearance.

Try your skill at matching the bark with the correct name of each tree.



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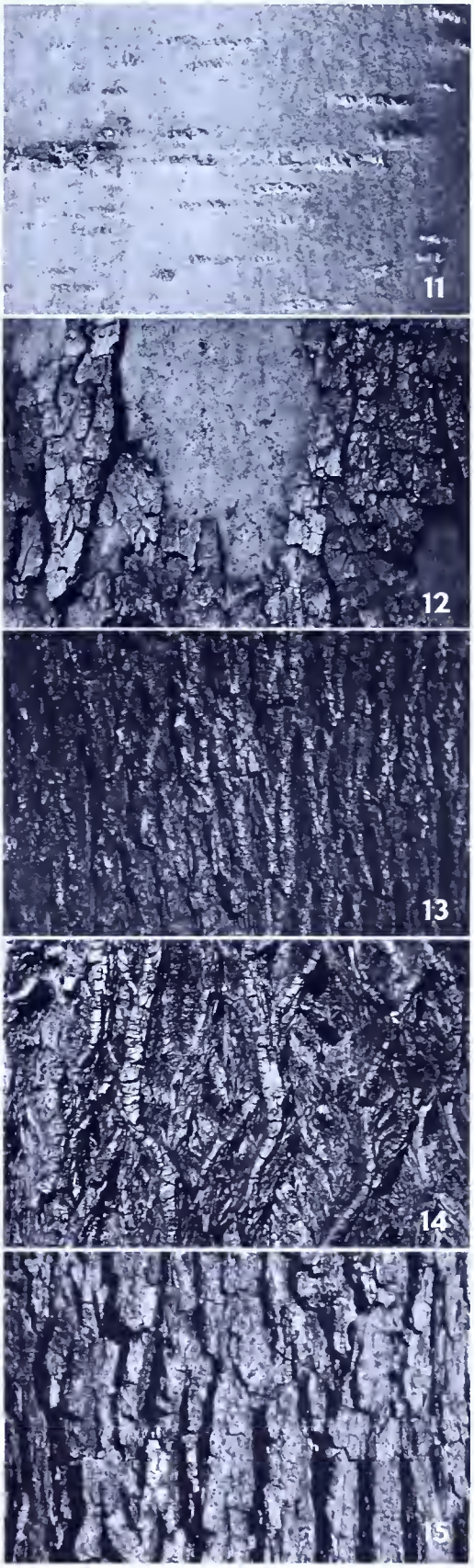
You may be surprised at how little you know about God's great gift to man.

Take a few moments on your next outing to observe the trees, and you will make your day just a little different and perhaps a little more wonderful.

Scrambled

Black Walnut
Hemlock
Yellow Pine
Aspen
Yellow birch
Red cedar
White willow
White or gray birch
Shell- or shag-bark hickory
Red maple
Beech
Red or river birch
Buttonwood or sycamore
White oak
White pine

Answers on Page 41







Bean Ration

SOMERSET COUNTY—In a letter received from Walter Atkens, R. D. 4, Johnstown, Pa., he related this occurrence. It seems the excitement of that first day afield for that trophy buck was just too much for a Davidsville man and his thirteen-year-old son of Somerset County. In the excitement he picked up a package thinking it was their lunch and put it in his hunting coat. After hunting till noon he and his son sat down to enjoy their lunch. When opening the paper bag he was quite disappointed, for he had carried eight pounds of dried beans instead of a lunch for two. But what was lunch to a pair of high-spirited buck hunters. They knew Mom would have a fine dinner prepared when they returned home. When the day had ended these hunters were quite hungry, and when they sat down to dinner, much to their surprise Mom had baked a large pan of baked beans. Being sportsmen, also a little hungry, they ate and enjoyed them very much. —District Game Protector James Burns, Jr., Central City.

Deer Delinquency

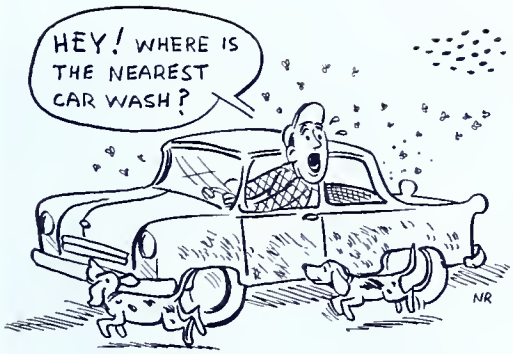
CENTRE COUNTY — Deer have been doing the darndest things to "end it all" in my two districts lately. Some got themselves killed on the highways, three (one an expectant mother) tangled with violators, four lost arguments with dogs, four plunged some 60 feet into stripping cuts, three attempted to jump over railroad coal cars (two landed inside and were released through possum belly under the car, the third one died while hanging by front leg half way up side of car), one attempted to take a bath in a well 12 feet deep and three others attempted to use the same landing strips that Allegheny Airlines planes were using at the Black Moshannon Airport. — District Game Protector Michael Grabany, Philipsburg.

Early Arrivals

WASHINGTON COUNTY — On January 30, in the wake of heavy snow flurries plus a thermometer plummeting toward the zero mark, a flock of at least a dozen "misplaced" robins were noted feeding on multiflora rose hips, Game Lands No. 117, Washington County—more conclusive evidence supporting the value of this shrub to our wildlife population.—Land Management Assistant Gilbert L. Bowman, Ligonier.

Deputies to School

CARBON COUNTY—All deputies except one that is ill in District 5-13-2 are attending State Police School in Nesquehoning. The classes are held two times a week for ten consecutive weeks. — District Game Protector A. Dean Rockwell, Jim Thorpe.



Manure Treatment

TIOGA COUNTY—Ask the farmer's permission to park in his field while hunting because he can get awful close with a manure spreader if you don't. This happened twice in Tioga County this fall. One hunter had permission but the farmer didn't recognize his new car, so he got the manure treatment. — District Game Protector William D. Denton, Elkland.

No Head

GREENE COUNTY — On January 29, my wife and three-year-old daughter, Gale, accompanied me to State Game Lands No. 223 to watch the releasing of ten deer. This is the procedure used in the releasing: There is a chute type door on the ends of each box. First a slight glance is given under the door to see which end the deer is facing, and then the face end of the box is turned in same direction and the chute raised.

Gale curiously watched each of the first seven deer, as the door was raised and how each deer poked its head out, scanned the area, then bounded to freedom. We glanced into the eighth box, the door was raised, but apparently the deer reversed direction in the box, for it slowly began backing out. I quickly reached out to push the deer back in, but what climaxed that moment was the loud excited remark from Gale, "NO HEAD!" — District Game Protector Theodore Vesloski, Carmichaels.

Eagle Sighted

MONROE COUNTY—A bald eagle was observed feeding on a deer carcass near Bushkill this month, the first I have seen in this area since 1960.—District Game Protector John H. Doebling, East Stroudsburg.

Increased Interest

BERKS COUNTY—More and more requests are being received for assistance in the planning of food and cover development for wildlife on private lands. We think that this is evidence that the general public is becoming more aware of our wildlife problems.

We hope that some of this is resulting from our continued emphasis on development of food and cover for wildlife.—Land Management Assistant Ralph L. Shank, Leesport.

Game Party Line

LEBANON COUNTY—It might be of interest to the sportsmen to know just how many telephone calls are made or received at a Game Protector's home a year.

During 1961 my wife or myself logged 1,822 calls. This does not include several hundred calls that were not logged.—District Game Protector Perry A. Hilbert, Cleona.

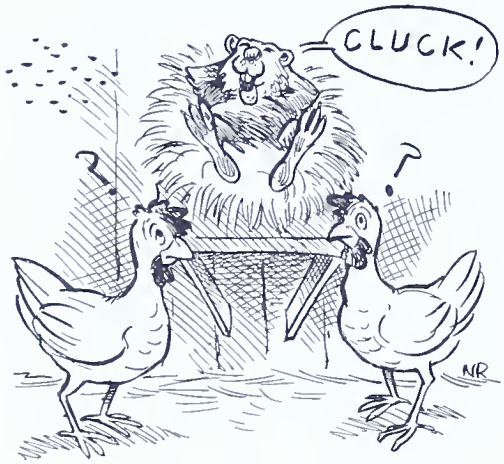


Cooperation With Results

WESTMORELAND COUNTY – I have spent considerable time with officials of the Agriculture Stabilization Commission in the Southcentral and Southwest Divisions discussing conservation practices as listed in the State handbook. Excellent cooperation was received from all who were contacted and the Game Commission will benefit greatly from these conservation practices.–PR Area Leader Bruce W. Catherman, Ligonier.

Lonely Chuck

WESTMORELAND COUNTY–On the morning of January 8, 1962, in zero weather, Deputy Baker looked out of a window to see a woodchuck sitting on his lawn. He caught the animal and put him back down his hole. The next morning the same thing happened. On the third morning the chuck was there on the lawn again, so Deputy Baker made a nest of straw inside a shed and put the chuck in it. Everything seemed to be fine but the next morning the chuck was out again. At his wit's end he put the animal in with the chickens. The chuck curled up in some straw in the corner and went to sleep, and he is still there. Maybe he was just lonely. – District Game Protector Philip L. Young, Apollo.





Collision

UNION COUNTY – The following little episode was related to me recently by Quentin Snook, Mifflinburg, Pa., proprietor of Snook's Mill.

Bob England, Manager of the Philadelphia branch of Traveler's Fire Insurance Company, was deer hunting with Snook at the Mohawk Camp in Union County during the recent season. Thursday of the first week of the season was quite cold and very windy. On this day because of weather conditions, Bob stationed himself in some thick pines where visibility was limited. After some time there was a sudden commotion and before he could wink his eye a large doe deer ran smack into him. Bob flew one way; his gun another. The deer fell to the ground with Bob's gun coming down on top of it. (Imagine the embarrassment of a former Marine losing his weapon.) There lay gun and deer for several seconds and nearby on the ground sat Bob a little dazed. The deer finally gathered itself together and took off. After retrieving his gun, Bob started for camp. That night he rather sheepishly related the story to his companions.–District Game Protector John S. Shuler, Lewisburg.

Deer Jam

BUCKS COUNTY — On December 19, 1961, the day following the antlerless deer season, we received a report that three deer had fallen into a walled lock along the old Delaware Canal system near Kintersville. This lock consisted of three 10-foot stone walls and an old wooden gate about the same height. The gate probably had not been opened in fifty years.

Within a short time about 75 spectators and willing helpers had arrived on the scene and it was decided that the best way to get the animals out was to open the gate and permit them to swim down stream and climb out onto the towpath below the lock.

Getting the old and rotted gate open was quite a chore, but with the help of some long log chains, supplied by a kindly, unidentified gentleman, and a dump truck, volunteered by the Paper Company, it was finally accomplished. The deer were quick to respond and were presently scampering down the towpath amid sprays of water from their wet bodies.

We are sure that all concerned, including the deer, received a great deal of satisfaction from this rescue operation and we wish to express our appreciation to all of the "engineers" who left the scene before they could be thanked.—District Game Protector William J. Lockett, Doylestown.

Cutting Party

LACKAWANNA COUNTY — In late January it was my pleasure to participate in a browse cutting party on Game Lands No. 135 at Clifton, assisted by Scout Troop No. 6, of the Baptist Church of Scranton. Also present for the event were Land Manager Henry Rodeghiero, Game Protector Howard Bower and Deputy Game Protector Leonard Edwartowski. All Commission members commented on the enthusiasm and ambition showed by the Scout group.—District Game Protector John L. Altmiller, Clarks Summit.

Bright Ring of Water

CHESTER COUNTY — On the opening day of the antlered deer season a Chester County hunter related the following story to Deputy G. S. Sclipf who was patrolling in the northern end of the county. The hunter, Kenneth Miller, R. D. 2, Elverson, was seated in a tree by the side of a small stream in Warwick Township, along came a mink and entered a pool of water in the stream about thirty inches deep, swam around with its head under water and looking down, then suddenly dived and came up with a fish about five inches in length. After returning to the bank and eating the fish, he then repeated the same act two more times. He then went on his way without knowing that he had been seen catching and eating his lunch. The hunter stated that he enjoyed the performance of the mink much more than if he had bagged a nice big buck.—District Game Protector Edward J. Fasching, Downingtown.

Masked Prowler

VENANGO COUNTY — One day last week, I fed game all day and in the evening attended a sportsman's meeting. When I arrived home my wife informed me that there had been a big raccoon in our garbage can . . . it even came up on the back porch!—District Game Protector John R. Miller, Oil City.



Need a Deer Guard

JEFFERSON COUNTY — Deputy Volpe, who worked for the B. & O. Railroad, stated to me that he helped remove 27 deer from the section of railroad between Brockway and Ridgway. There probably were several more that he knew nothing about.— District Game Protector George W. Miller, Sigel.

Multiple Use

ADAMS COUNTY—Recently I visited Farm Game Project No. 133 located in Adams County where border cutting is in progress with the food and cover corps. I was amazed that so much small game had taken cover in the brush from cuttings that were piled up. This brush row is approximately 30 feet wide and 1,500 feet long. One of the corps members told me he had flushed between 70 and 80 quail from the row. I also observed many pheasants and quail leaving the brush. Border cuttings certainly are the answer for cover for small game in the winter. — Land Manager John Spahr, Gardners.

There He Stood

FRANKLIN COUNTY—Louis Thibault who lives about one-fourth mile from the village of Lemasters was rather shocked one morning when he went outside of his house to warm up his car prior to leaving for work and discovered a large black bear standing near his car. Mr. Thibault had recently moved to this area from Massachusetts and was very much surprised. Most natives of this area would have been just as surprised because bears are not common in this vicinity. I imagine the bear was very surprised also because this was probably the first man from Massachusetts that he had ever seen. — District Game Protector Edward W. Campbell, Fort Loudon.

Ice Floater

LUZERNE COUNTY—On January 9, 1962, while driving along the Susquehanna River between Nescopeck and Wapwallopen, I noticed that the river was almost completely covered with floating ice. I saw that there was a bird of some kind riding one of these blocks of ice. I checked with my binoculars and plainly saw that it was a sea gull which was feeding on a fish that was about 18 inches long. Since it was very cold this day, perhaps the gull decided to catch a meal, land on an ice block, and ride the floating restaurant south to a warmer climate. — District Game Protector Robert W. Nolf, West Hazleton.

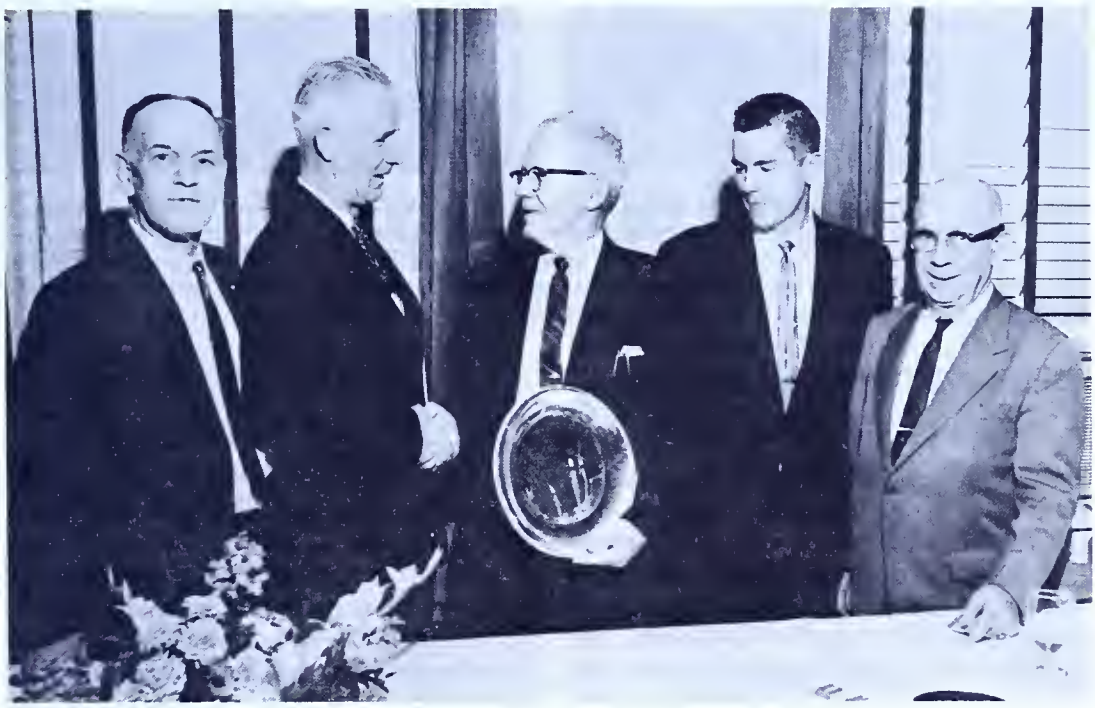
Mouse Trap

ERIE COUNTY — A great number of Eastern sparrow hawks have been observed this season, probably due to the lack of snow in this area. Recently I observed one hovering in the air about 40 feet off the ground. I stopped the car to watch the performance of this beneficial little bird. After remaining in one spot for what seemed minutes, it folded its wings and dove to the ground about three car lengths in front of me. It made one pass and had in its talons a field mouse for its dinner, it was 12 noon, thusly helping the nearby orchardist eliminate some of the damage we all know a mouse can do. — District Game Protector Ralph Flaugh, Albion.

Pet Damage

ALLEGHENY COUNTY — Rabbit trappers in District 2-02-1 have lost sixty rabbits to dogs and cats. I don't think people realize that their pets could do so much damage to wildlife or they would keep them under control.—District Game Protector George T. Szilvasi, McKees Rocks.

CONSERVATION NEWS



PGC Photo by Paul Glenny

SPORTSMAN OF THE YEAR in Delaware County is Deputy Game Protector Charles E. Lentz, of Chester. The award was made to Lentz at the annual banquet of the Delaware County Rod and Gun Club on February 1. Left to right are Robert Yake, 1960 award winner; Paul Failor, Predator Control Agent for the Game Commission; Charles Lentz; Richard C. Feaster, District Game Protector; and Leroy (Shorty) Manning, the 1959 Sportsman of the Year.

Game Commission to Manage Indian Rock Lands

The U. S. Army Corps of Engineers, Baltimore District, recently granted a license to the Pennsylvania Game Commission to manage, for wildlife purposes, 920 acres of land known as the Indian Rock Dam and Reservoir. The tract is located several miles southwest of the City of York.

The Commission has held licenses for game management on Corps of Engineers flood control reservoirs in the Pittsburgh district for a number of years. These licenses are granted under the provisions of Fish and Wildlife Coordination Act.

The game agency's intensive management of the area for game will include living hedges and other shrub plantings for cover and the establishment of safe nesting sites for game birds. A complete food and cover development plan will provide better conditions for the production of cottontails, pheasants, quail and waterfowl.

A small portion of the holding will be share-cropped, but haymaking and pasturing will be prohibited. This fine tract of agricultural land will be developed with the cooperation of the Soil Conservation Service and the York County Soil Conservation District.





GAME PROTECTOR HOPEFULS line up for the written examination given at William Penn High School on January 29. Of the 432 who filed an application for the 11th student officer class, 340 were eligible to take the initial test, and 287 appeared at the examination. The group was divided into classroom size and given the series of tests which took about three hours. Twenty-one of these will be selected for the class.

Nearly 300 Game Protector Aspirants Take Exam

On January 29, 287 men who desire to become members of the Game Commission's 11th student officer class engaged in a competitive written examination in Harrisburg. The candidates came from all over Pennsylvania. Of the 432 who filed applications 340 were eligible for this initial test.

The examinations were machine-graded. Men whose grades registered highest and who, it has been established, are desirable field officer material were asked to return to the Capital City on February 26. At that time they appeared individually before an oral interview board. Those accepted will then undergo a strict physical examination.

The twenty-one aspirants who attain the highest composite grade, are of good character and possess the required physical requirements will be enrolled, March 25, at the Ross Leffler School of Conservation in Jefferson County. As trainees, they will receive classroom instruction there and, at seasonal periods, practical field experience in wildlife management for approximately ten months. Student officers who measure up to the prescribed standards and complete the course will be commissioned Pennsylvania Game Protectors.

Training School Official Appointed

The Game Commission recently promoted Roger J. Wolz to the position of Assistant Superintendent of its Ross Leffler School of Conservation.

Wolz began service with the wildlife agency in 1950, as a Deputy Game Protector. He graduated from the Commission school in March, 1957, and was assigned to duty as a Game Protector in Erie County. Being a training school official is not new to Wolz. Because of his previous training in educational work he was assigned as Acting Assistant Superintendent of the school during 1959-60, when the 10th class of student officers underwent training. Afterward he returned to Erie County and resumed the duties of a Game Protector. Wolz presently is assisting Donald E. Miller, Superintendent of the school, to prepare for the 11th class of student officers who began training March 26.

Changing Your Address? Don't Forget GAME NEWS

The Post Office will not forward copies unless you pay extra postage and we cannot replace lost copies. SO PLEASE . . . at least six weeks before the first issue to go to the new address, send us your name, new address including postal zone, and your old address. Mail to GAME NEWS, Pennsylvania Game Commission, Harrisburg, Pa.

Long Flight by Pennsylvania Banded Duck

The longest recorded southward flight of any duck the Game Commission liberated in Pennsylvania was made by a blue winged teal which was shot last December 1 on the island of Jamaica, in the West Indies.

The life story of the long-distance champ began in the spring of 1960 when a farmer in northwestern Pennsylvania mowed over a blue winged teal nest. The man took the eggs to the State Waterfowl Farm in Crawford County where they were placed in an incubator. The ten ducklings that hatched were raised, banded and turned loose on the Game Farm pond to fly out at will. One of them, whose band number was 86990, eventually winged its way to the West Indies. The final chapter ended when, recently, the U. S. Fish and Wildlife Service reported this bird's band recovery to the Pennsylvania Game Commission.

The Pennsylvania-released duck which holds the record for the longest flight westward was a mallard bagged in the State of Washington.

Pa. Places in All-American Sporting Dogs Awards

SPORTS AFIELD magazine selected four Pennsylvania dogs for their annual All-America Sporting Dogs Awards. Dog Editor Henry P. Davis announced the following winners in the January issue of SPORTS AFIELD: English Setters Champion Sam L's Rebel (Sam Light, Punxsutawney, Pa., owner) and Champion Orchard Valley Melody (R. D. Habgood, Jr., Bradford, Pa., owner). Irish Setters Lady's Final Fling and Lady Dianne, both owned by W. E. LeGrande, Douglasville, Pa.

Two Pennsylvanians Win Conservation Award

Two Pennsylvanians are among the 22 individual winners of the ninth annual American Motor's Conservation Awards, announced George Romney, president of the automobile company. They are Charles F. Lewis, of Pittsburgh, and Earl S. Mensch, of Boyertown.

Dr. Lewis, unsalaried president of Western Pennsylvania Conservancy, led the fight to preserve many natural areas of western Pennsylvania. The newly created Muddy Creek State Park of 2,000 acres is a prime example of his tireless efforts.

Mr. Mensch, a dairy farmer and director of the Soil Conservation District of Berks County, installed important conservation practices on his own farm and encouraged others to cooperate with the Soil Conservation District. He supervised the District's exhibits at Reading and Oley Fairs, and led the efforts to establish a Conservation Training School, the first to be operated by the Soil Conservation District in Pennsylvania.

Answers for Pages 32-33

Key to "Can You Name These Trees?"

Correct Identification	*Scrambled*
1. White or gray birch	8
2. Yellow birch	5
3. Red or river birch	12
4. Black walnut	1
5. Shell- or shag-bark hickory	9
6. Hemlock	2
7. Red cedar	6
8. White pine	15
9. Yellow pine	3
10. Beech	11
11. Aspen	4
12. Buttonwood or sycamore	13
13. Red maple	10
14. White willow	7
15. White oak	14

Audubon Publishes Nature Centers Pamphlet

The National Audubon Society has just published a 40-page pamphlet to show the urgent need for nature centers in America and to offer the services of the Society's newly established Nature Centers Division.

The pamphlet called "A Nature Center for Your Community," points out that one of the pressing problems in America is how to make conservation of our natural resources meaningful to our people. This problem is particularly serious in our expanding cities and suburbs where men, women and children are losing contact with the land and nature in general.

With this problem in mind, in 1961, the National Audubon Society established a Nature Center Division as the result of a merger of the Nature Centers for Young America, Inc., and the Audubon Society.

The purpose of the new Nature Centers Division headed by Dr. J. J. Shomon is to encourage and assist communities—through private organizations, educational institutions, industry and government — in setting aside areas of natural land and establish thereon interpretive centers where dynamic educational programs in the natural sciences and conservation can be effected.

The Nature Centers Division's emphasis is one of professional educational service. Through an experienced staff, expert council and guidance are offered communities, organizations and agencies who are interested in developing nature and conservation centers. Much of the advice is offered through publications, audio-visual aids and correspondence.

The new 40-page booklet, which sells for $1, is beautifully illustrated and professionally written to tell the nature center's story. Copies of this publication can be obtained from Nature Centers Division, National Audubon Society, 1130 Fifth Avenue, New York 28, N. Y.

Number of Whooping Cranes Hits New Record of 38

A record number of 38 whooping cranes is wintering at the Aransas National Wildlife Refuge on the Texas coast, the Department of the Interior said recently. This is two more than had been reported on previous counts this season and two more than the record of 36 set in 1961.

Refuge officials do not know when the two additional cranes, both adults, arrived at Aransas. They report that the birds have been exceptionally restless this season and that counting has been difficult because the cranes have moved from place to place so often. Shortly before Christmas, an aerial survey indicated 38 cranes, but a recheck disclosed only 36. At other times, only 34 could be located. The flock now consists of 33 adults and 5 young.

Answers to Questions on Page 10

1. False. The white "petals" are really modified leaves. The flowers are green and yellow.
2. Perfect flowers are those that have both male and female parts.
3. Colorful corollas are designed to attract insects for the purpose of pollinating. Since tree flowers are readily pollinated by the wind there's little need of such attraction.
4. Yes, although they are not easily recognized as such.
5. Oaks, birches, aspens, walnuts, willows, hickories, and others—take your choice.
6. The tulip tree.
7. A flower that has a pistil (the structure that houses the seeds), but no stamens. A female flower, in other words.
8. False. They are only about ¼ inch across.

Squirrel Box Worth Money

One thousand dollars in prizes are offered by the Frederick, Md., chapter of the Izaak Walton League to find a cheaply constructed squirrel nesting box that can be marked at a low price. A first, second and third prize of $500, $300 and $200 are offered to encourage propagation of squirrels and maintain them as the most popular of all small game animals among hunters in every part of the country.

The League is looking for the design of a box that can be placed permanently in a tree and will have aesthetic value as well as utility. "Gradual destruction of wildlife habitat by the advance of civilization has eliminated much small game," declared Royal H. Carlock, of Cabin John, Md., National Director of the Izaak Walton League, and a member of the Frederick, Md., chapter. "But the gray squirrel is popular in every section of the United States where mixed hardwoods predominate, and a decrease in his population can have a more serious effect upon hunting opportunities of more Americans, young and old, than any other small game animal."

The League hopes this contest will attract young people to enter as members of senior Boy Scout troops, 4-H clubs and high schools.

A general sketch and workable manufacturing specifications must be submitted. A detailed announcement of the contest and the list of rules are available from Squirrel Box Contest, Frederick chapter, Izaak Walton League, P. O. Box 561, Frederick, Md.



Commissioner Mervine

Mervine Becomes Eighth Commission Member

The State Senate confirmed the appointment of Russell L. Mervine, Stroudsburg attorney, as a member of the Pennsylvania Game Commission on January 29.

The new Commission member, whose father and grandfather engaged in lumbering operations, has a deep interest in our forests and wildlife.

Mervine, 61, will fill the unexpired term of the late C. Elwood Huffman as the northeastern representative of the Commission. His appointment brings the wildlife agency to the full complement of eight members.

Teen Hunters Clubs

Pennsylvania communities interested in giving their teen-agers an outlet for their interests in firearms should contact the Sportsman's Service Bureau in New York City. They have a new idea called Teen Hunters Clubs. The Bureau suggests that local service clubs or merchants groups sponsor a Teen Hunters Club to help teen-age boys and girls understand the responsibilities of gun ownership and to permit them to share the pleasures of active participation in some form of recreational shooting. The Sportsman's Service Bureau's address is 250 East 43rd Street, New York 17, N. Y.



PGC Photo by Delbert Batcheler

RETIREMENT BANQUET was given for retired Game Protector Clarence (Roundy) Walker, of Snyder County, last fall. Commissioner Dewey H. Miller presents the certificate of retirement to Walker who served 30 years with the Game Commission and retired on June 30, 1961.

Commissioner Thompson Says . . .

WAKE UP, MR. SPORTSMAN

Never in all my previous years of hunting in Pennsylvania have I noticed as much willful disrespect for the game laws of this great Commonwealth as was evident in 1961. In my opinion the waste of deer, bear and elk this past season was among the most wanton ever in Pennsylvania.

In many instances, the sportsmen in the woods or fields can obtain valuable information which would assist in apprehending game law violators, but their favorite remark is, "It's not my job." Wake up, Mr. Sportsman! **It's your game that's being wasted!**

Some of you complain that there is no game, but many times you witness a violation and do nothing about it.

Game Commission personnel work for you and need your help to protect *your sport.* The law-abiding sportsmen must rally behind the Game Commission to help stop this waste of the public's wildlife. With the ever increasing human population and the continuing loss of hunting lands, we all must assist in protecting our outdoor heritage and our wildlife.

—James A. Thompson, President, Pennsylvania Game Commission

Pennsylvania Trappers Association to Hold 26th Annual Convention

The Pennsylvania Trappers Association, Inc., with State Heaquarters at R. D. 3, Lebanon, Pa., will hold its 26th annual convention on May 25 and 26 at S. B. Elliott State Park, ten miles north of Clearfield along State Route No. 153.

Representatives of the Pennsylvania Game Commission, Virginia Commission of Game and Inland Fisheries, U. S. Department of the Interior, the National Trappers Association, Ohio Trappers Association, Indiana State Trappers Association, New York State Trappers Association, Maryland Trappers Association and the Ontario Trappers Association are expected to be present.

Famous trappers such as E. J. Dailey, S. Stanley Hawbecker, F. Q. Bunch, E. F. Keith, Bill Nelson and many others will attend.

Free trapping and outdoor demonstrations will be conducted throughout the two-day period, and trapping equipment will be distributed free to all in attendance. Displays of antique and modern trapping equipment, books and magazines will be available and for sale.

TIPS FOR HUNTERS



A very practical piece of wet weather wearing apparel for the outdoorsman is the ordinary papier mache sun helmet. It will keep the rain out of one's neck. A red one is just right for upland hunting and a gray or tan color for the duck blind.—*Rev. George L. Harting.*

PORTRAITS OF THE SEASON

April

A FRESH mound of yellow mars the greening hillside. On it a lean, big chuck, wise in lore, sits and soaks in the sun like a bewhiskered beachcomber. The early heat feels good to old bones. Sunlight filters through a net of maple blossoms to catch the pink-veined whiteness of spring beauty. It forms warm patterns on dark swamp pools that shake with the nerve-piercing calls of all frogdom—hundreds of chorus frogs driven by the cold sensuality of their tribe to the swampland pools that will rear their silent tadpoles.

Across the valley, through the green mist of the April woods, the old chuck sees another and sometime frequented mound of earth, and knows enough to keep to his side of the valley during these days. There, at the end of a ten-foot tunnel in sterile soil, a squirming litter of pink and wrinkled wood chucks speaks of his conquests. He yawns a bit, stretches his hind legs back like a fox terrier and dozes to the buzz of an early fly.—*John Guilday*

RESOLUTION

WHEREAS, After giving due consideration to the present predator population;

THEREFORE, BE IT RESOLVED, That the Pennsylvania Game Commission, acting under the power and authority vested in it by the provisions of Article XI, Section 1101 of the Game Law, by resolution adopted this 5th day of January, 1962, hereby directs that for the fiscal year beginning July 1, 1962, the bounty payments authorized for birds and animals enumerated below, if killed in a wild state in any County of the Commonwealth during the period specified and presented in the manner and under the conditions stipulated in the Act aforesaid, shall be as follows:

Gray Fox—$4 for each gray fox killed, except that such bounty on gray foxes be discontinued with the opening date of small game season, whatever it may be, and remain so through November and December.

Red Fox—$4 for each red fox killed, except that such bounty on red foxes be discontinued with the opening date of small game season, whatever it may be, and remain so through November and December.

Great Horned Owl—$5 for each great horned owl, adult or fledgling, killed, except that such bounty on great horned owls be discontinued with the opening date of small game season, whatever it may be, and remain so through November and December.

BE IT FURTHER RESOLVED, That the foregoing Resolution shall be duly published in accordance with Section 1102 of Article XI of the Act aforesaid in the March and April issues of the PENNSYLVANIA GAME NEWS, also to be brought to the attention of the public by news release and other sources of public information; and

BE IT FURTHER RESOLVED, That the Executive Director is hereby authorized and directed to certify the foregoing as an act of the Pennsylvania Game Commission.

M. J. GOLDEN
Executive Director
Pennsylvania Game Commission

SHOWN IN THE PHOTO is Arden D. Fichtner, Greenville, Mercer County Game Protector, checking an abandoned farm open deep well, containing three (3) dead deer carcasses. This particular 'WELL' is approximately two (2) miles east of Sandy Lake, Pa., in Sandy Lake Township, is about four (4) feet square and twelve (12) feet deep. The 'WELL' is easy walking distance from the community for the children in their play. It is a 'BOOBY-TRAP' in the first degree for any living thing that walks. The P. F. S. C. has been urging legislation to correct such deadfalls in Pennsylvania, but has met with no success to date.



Winter Waterfowl Survey

During the week of January 8 the annual winter waterfowl trend survey was conducted throughout the United States and Mexico. The purpose of the project is to ascertain the number of ducks and geese wintering in the two countries. Information so obtained indicates how many potential breeding birds may be available for return, next spring, to their nesting grounds to the north.

This is one of the many methods employed by federal wildlife people to gather information used to determine the length and bag limits of a waterfowl season. U. S. Fish and Wildlife Service agents combine forces with state game personnel to accomplish this winter operation.

More than 22,000 ducks and geese were observed in Pennsylvania during the survey. This number is considered average for this state in recent years. The reason the Pennsylvania count one year ago was approximately 11,000 higher is attributed to the fact a freeze-up at the time forced waterfowl into open areas where they were counted more easily than normally.

The Pennsylvania waterfowl survey was headed by Samuel T. Miller, U. S. Game Management Agent, and Robert E. Latimer, Game Commission Waterfowl Management Agent. Numerous Game Protectors teamed with these men in making the count.

Early Days of Beaver Season

Fur trappers in Pennsylvania were not out in force during the first days of the 1962 beaver season which opened February 10. Reasons why early season trapper enthusiasm was below that of some recent years were reported by Game Commission field officers to be: thick ice on beaver dams; streams frozen over or heavily iced along the edges; the low price being paid for fur; bank beavers "sitting tight" and flat tails in beaver dams not moving except from their houses to food stored under the ice.

On February 13 the Commission's three northern divisions, in which most of the beavers are trapped, reported that ice on dams was 12 to 20 inches thick. Many experienced fur takers prefer to trap intensively after a period of mild weather encourages beavers to move about, when trapping success, therefore, is more likely.

Reports tell, also, that muskrat trappers, who may take the smaller fur animal in the extended season which runs concurrent with the beaver season, apparently are waiting for a "warm spell" before becoming very active.

During the 1961-year season for beavers 5,333 of the flat tails were trapped in Pennsylvania. This was the highest take of any year except 1934, the first year a season for the large fur bearers was declared in the state.

RABBIT EXHIBIT AT PENNSYLVANIA SPORTS SHOW

The state's most popular small game animal, the cottontail rabbit, was featured in the Game Commission exhibit at the seventh annual Pennsylvania Sports and Outdoor Show at the Farm Show Building in Harrisburg. The educational exhibit stressed rabbit management, particularly the all-important food and cover for cottontails. The show ran February 9 through 17.

Woodland border cuttings, which improve farm crop yields also, and other land management practices which help in the production of larger rabbit populations were realistically displayed in the wildlife exhibit.

Uniformed Game Protectors were present to discuss cottontail management and other wildlife subjects with outdoorsmen, farmers and others who attended the show.



PENNSYLVANIA 25 YEAR



JAMES A. OSMAN
Land Management Assistant

He enrolled in the first class of student officers at the School July 2, 1936, graduating February 28, 1937. His first assignment was a Traveling Game Protector. September 1, 1938, he was appointed District Game Protector. On March 5, 1945, he entered military service until August 1, 1946, when he returned as a District Game Protector. June 1, 1958, he was appointed Game Protector-Land Manager until his promotion April 15, 1959, to the position of Land Management Assistant in the Northcentral Division, which position he now holds.



EDWIN W. FLEXER
Game Protector-Land Manager

He began his Commission service July 2, 1936, as a member of the first student officer training class, graduating in 1937. His first appointment was the position of Traveling Game Protector. September 19, 1940, he was appointed District Game Protector in Lebanon County, later serving in the same capacity in Chester and Bucks Counties. From April 8, 1944, to July 19, 1946, he was on military leave, and returned to his position as Game Protector. June 1, 1958, he was appointed Game Protector-Land Manager, which position he still holds.



NICHOLAS M. RUHA
Game Protector-Land Manager

He began his Game Commission service July 2, 1936, as a member of the first student officer training class, graduating in 1937. His first assignment was Refuge Keeper until July 21, 1941, when he entered military service. Upon his return from the service September 10, 1945, he was appointed District Game Protector. July 1, 1949, he was promoted to the position of Land Utilization Assistant. August 3, 1957, he was re-assigned to the position of District Game Protector, and June 1, 1958, he became a Game Protector-Land Manager, which position he now holds.

ME COMMISSION
LUB



ROBERT S. LICHTENBERGER
Chief, Division of Administration



He began his Commission service July 2, 1936, as a member of the first student class, and graduated February 28, 1937. Following graduation he was retained at the School as Resident Instructor. September 22, 1938, he was appointed Game Land Technician. May 1, 1939, he returned to the School as Assistant Superintendent, dividing his time between the School and the field until military duty which began July 28, 1942. After his discharge from the Army April 16, 1946, his Commission service was again divided between the Training School and Land Management Operations. June 1, 1953, he was assigned to the position of P-R Coordinator at the Harrisburg Office. April 1, 1954, he was appointed Superintendent of the Howard Nursery until February 26, 1956, when he was assigned Supervisor of the Food and Cover Section, Land Management Division, Harrisburg. January 5, 1959, he was promoted to the position of Chief, Division of Administration, which position he now holds.



GEORGE E. SPRANKLE
Game Protector-Land Manager

He began his Commission service as a member of the first training class, and graduated February 28, 1937. His original assignments were Refuge Keeper and Game Protector-Land Manager. June 1, 1945, he was appointed District Game Protector and served in that capacity until June 1, 1958, when he was appointed Game Protector-Land Manager, which position he now holds.



ALBERT R. BACHMAN
Supervisor, Farm-Game Section

He began his Commission service July 1, 1936, as a member of the first student officer training class, graduating February 28, 1937. His first assignment was a Refuge Keeper until June 1, 1942, when he was promoted to Land Utilization Assistant in the Southeast Division. He served in this capacity until February 27, 1956, when he was promoted to Supervisor of the Farm-Game Section of the Land Management Division at Harrisburg, which position he now holds.

Once Upon an April Day In the Boas Street Woods

By Marian N. Baker



Photo by Elwood Grimes

CLOUDS ON BOAS STREET are common in April. These are cumulus clouds caused when the rising currents of air are cooled to the point where some of the water vapor condenses to form cloud droplets that are visible in mass.

THE story of April is a mystery play of light and shadow on the awakening earth. The main character, water, is a versatile fellow appearing in many guises throughout the saga—prompted by the indulgent parent, sun.

Last night while the sun was busy on the other side of the world the temperature dropped below freezing and as if by magic our main character appeared in the form of a white frost that covered the lawns and rooftops and bedecked the petals of tulips, daffodils and hyacinths. When the sun returned to the cloudless sky the frost disappeared except in the shaded areas where it continued for a while as distinct white shadows which lagged a bit behind the real shadows as the sun advanced.

Today a blue cloudless sky stretches above the Boas Street Woods. The sun is warm but the air continues to have a nip in it. The earth, however, is responding to the growing warmth and the green of the March grass is reflected in the misty veil of the weeping willow and the sturdy buds of the lilacs which have been lengthening with the days. The forsythia bushes are masses of yellow blossoms and the japonica buds are showing crimson. The magnolias which for days have been hesitant to discard their winter wraps have at last cast them aside to display their spring dresses.

The song sparrow scuttles about under the forsythia bush or sings from its cascading branches. The song is as familiar as a nursery rhyme. It starts off with three or four deliberate notes that are followed by a series of notes in quick succession. Thoreau interpreted it as, "Maids! Maids! Maids! hang on your teakettle-ettle-ettle." You can recognize this mottled brown sparrow by its streaked breast with the brown spot in the center.

Gardeners are out raking the lawns and turning the first spades of earth.



Much of the water that has made the ground sodden for the past weeks has, at the request of the sun, gone back into the atmosphere where in the form of invisible vapor it serves to make the afternoon a trifle humid.

Some water that evaporates from the Boas Street Woods becomes visible to us in another guise—that of clouds. Even the most casual observer has noticed that some clouds appear in individual puffs, some as formless layers and others as wispy white brush strokes on an otherwise blue sky.

Classify the Clouds

If you have noticed this, you have a basis for classifying clouds. The puffy ones are called cumulus clouds and are formed when rising currents of air are cooled to the point where some of their water vapor condenses to form cloud droplets that are visible in mass. The layer clouds are known as stratus clouds and are the result of a whole layer of air being cooled below its saturation point without any pronounced vertical movement of air like the updrafts that caused the cumulus clouds. The white wisps called cirrus clouds are formed at such heights that they are composed of ice crystals blown by the wind.

Clouds are not only classified according to the ways in which they are formed but also according to the altitude at which they occur. Thus in the International Cloud Code which you can find in the dictionary you will find the familiar names, cirrus, cumulus and stratus in combination and together with the qualifying names, alto and nimbus. Alto refers to the middle altitude clouds, cirrus in all forms are high altitude ones while nimbus attached to a cloud name means that it is a storm cloud. With a chart of cloud illustrations, which you can procure from the Superintendent of Documents, United States Government Printing Office, Washington 25, D. C., for ten cents, you can enjoy comparing and identifying the cloud formations.

Passing Visitor

During the course of an April day we are conscious of the clouds as shifting backgrounds for the other activities of nature. Today I watched a buzzard soaring high in the blue sky with its wings outstretched and motionless—taking advantage of the air currents it tilted and glided with effortless ease. The buzzard is a large black bird, much larger than a crow, with a reddish bald head something like that of the turkey. It is sometimes called the turkey buzzard. They are not residents of the Boas Street Woods, but occasionally they borrow our air currents for a leisurely ride. In the scheme of nature they are the scavengers, living on dead and decaying animal matter.

It wasn't long before the tops of the rising columns of air that the buzzards had been riding became visible as white billowy cumulus clouds with very sharply defined horizontal bases where they entered the colder layer of air. They always remind me of the tops of aerial icebergs with their bases made invisible by the warmer air beneath.

Insects Are Busy

Not everything that has wings is using them this morning. Here at my feet is an earth-bound carpenter bee struggling like a runner in a slow-motion movie to crawl across the pavement. It looks like a white-faced bumblebee except for the fact that its abdomen is blue-black and hairless, not variously marked with black and yellow pile as is the case with bumblebees. Even though it is having great difficulty in walking or righting itself when it tumbles on its back, it is not hurt—just stiff with cold. The temperature reading is fifty degrees, but here in the shade it is much colder. Since its white face indicates that it is a male carpenter bee and hence doesn't have the ability to sting, I picked it up and carried it along with me. When the full light of the sun shone on it, it began to flex its legs with more ease.



Photo by Elwood Grimes

FLOWERS ON MAPLE TREES on Boas Street in April make a pretty spring sight. Each flower possesses five sepals and five petals, yellow green in color and a large nectar disc at the base of each blossom.

Finally there was a buzzing blur of wings as it circled into the April sky.

Insects are nature's thermometers, as the temperature lowers they become less and less active until like the carpenter bee they walk with difficulty and are unable to fly until they are revived by the warmth of the sun.

A Creature of the Air

The chimney swifts that depend upon flying insects for their food have returned to the Boas Street Woods. I saw a twittering group of four circling about in the sky today. They are truly creatures of the air since they have never been known to come to rest except in the dark recesses of chimneys or hollow trees where they build their nests.

The chimney swift is a sooty-gray bird about the size of a sparrow. Silhouetted against the sky their slender bodies with stumpy folded tails seem to be tapered at both ends—the wings are slightly arched in a crescent shape in sailing, on the turns they fan their tails.

Sometimes the clouds lower into dark stratocumulus that cover the sky with rolls and swirling masses of dark clouds. The boughs of the blossoming pear and cherry trees in the garden, tossed by the accompanying wind look like foam on the splashing spray of the turbulent waves.

Trees in Bloom

The Norway maple trees are great bouquets of yellowish-green flowers that nod to the April winds and bow to the dashing rains. The individual flowers are a little larger than those of the silver maples and elms that were blooming last month. Each flower possesses five sepals and five petals, all the same yellowish-green color, and a large nectar disc at the base of each blossom. Here the similarity ends, some clusters contain only pistillate flowers, others only staminate and a third may be composed of complete flowers with both pistils and stamens in the same flower. Try to find all three types of blossoms—you may find them on the same tree or on different trees.

Against the uniform black of the nimbostratus the trees stand out in sharp relief. Triangular silhouettes that are starlings rush for shelter before the storm.

When the minute droplets in the turbulent clouds unite to form larger and larger droplets they become heavy enough to fall as rain. The rain blows in sheets down the street and comes in gusts against the windows – the earth is washed clean. The clouds break up in the west and the tattered puffs and shreds are radiant in the sunset glow while the dark veil of stratus clouds still holds in the east. If the April story had a refrain this would be it—repeated again and again —the refrain of sunshine and rain.

Suggested Activities

1. Make a collection of weather proverbs. Study them to see which

ones are based on facts.

"When the wind veers to the east, 'tis good for neither man nor beast."

"Evening red and morning gray sends the traveler on his way; Evening gray and morning red sends the traveler home to bed."

2. Listen to the calls of birds that come to you from above the Boas Street Woods. Hear the honking of the Canada geese as their V-shaped wavering lines head into the north. Hear the "Kill-dee, Kill-dee" of the killdeer that fly about in early spring upon their return from the south. Hear the "'Caw, Caw" of the crows on their daily trips to their feeding grounds.

3. Observe the opening tulip buds. Notice how the three green sepals cover the petals so that all tulip buds are green at first, but as they begin to open the green sepals gradually change to match the color of the three petals within.

Hunting on Private Land Greatly Increased by Commission Program

Hunters who sought rural properties on which to hunt rabbits, ring-necked pheasants and other small game, last autumn, found additional acreage open to public hunting under the Game Commission's safety zone program. Through this project 6,777 farms of 50 acres or more which aggregated 1,145,570 acres were opened or kept open to public hunting during the 1961 hunting season. These totals compare with 5,700 farms and 1,002,000 acres in 1960 and 3,841 farms and 575,109 acres in 1959.

The Commission instituted the safety zone program in 1955 on a small scale, as a test. Hunters and landowners welcomed the innovation. Lands open to public hunting are of prime importance to shooter-sportsmen and the safety factor favorably impressed farmers. In each of the years that followed the program has met with increased acceptance by landowners.

The program, conducted also in the interest of better sportsman-farmer relations, simply is this: The rural property owner who would be willing to share the hunting and the game with townsmen often has posted his land against trespass to protect himself, his family, his poultry, livestock and farm buildings. Safety zone signs displayed around farm buildings having been effective on Farm Game Projects for many years, the Commission merely offered similar placards to property owners not in such Projects. According to the law, disturbing wildlife or shooting within 150 yards of occupied buildings is prohibited unless advance permission has been granted by the owner or occupant. The safety zone signs warn hunters to stay out of the no-hunting zone around farm buildings.

Credit for the growing acceptance of this program is due participating farmers, also to Game Protectors, Deputy Game Protectors and sportsmen who annually "sell" the safety zone plan and thus open many properties to public hunting. In addition to the hunting season protection the signs afford, participating landowners are given a free one-year subscription to GAME NEWS, the Game Commission's official monthly magazine.



Archery Deer Kill Highest in History

The Sum of the Hunt

By Tom Forbes

WITH the setting of the sun on October 27, 1961, another archery deer season passed into history. Parts of it may be summarized and filed for future reference, but the experience of the thousands of bowmen who roamed Penn's Woods in the golden days of autumn are locked up in the memories of the individual bowmen. These experiences have been recalled and relived on quiet winter evenings as the flames danced across a maple log in the fireplace or as talk flew back and forth between kindred spirits as they lived again the climax of a successful stalk or recounted their frustrated feelings when they were outwitted by their quarry.

That we may judge our progress, learn by our mistakes, and make our plans for the next archery season; let us take a look at the 1961 record. Bow hunters bought 61,892 archery deer licenses for the 1961 season. This is a drop in sales of approximately 9 per cent from the 1960 sales which totalled 68,051. Beginning in 1951, when 5,442 licenses were sold for a 12-day buck only archers' deer season, sales increased each year until they reached



76,767 in 1959. The past two seasons have disclosed a decline from the high of 1959.

Highest Reported Kill

The bow hunters reported a total kill of 1,517 deer during the 1961 season, **the highest reported for any year since the start of the archers' deer season.** The success ratio of 1:41, one deer for each forty-one licenses, tied the previous best performance in 1957, the first year of the any deer archery season. While these figures are interesting they should not be construed as indicative of the marksmanship or hunting prowess of the bow hunter. The 1961 season was almost three times as long as the 1957 season and there were 6,333 more licenses sold. We can, however, reasonably conclude that hunting pressure and length of season do not materially affect the deer herd. Of the reported kill 479 were antlered deer which represented 31.6 per cent of the take; 68.4 per cent or 1,038 were antlerless. Potter County took first place in the number of deer reported by the archers. A total of 131 deer were reported there, an increase of 26 over 1959 and 1960 when 105 deer were reported from this county. Lycoming County was second with 105, followed in order by Forest 70, a drop of 18 from 1960 when Forest County was in second place, and Sullivan and Clinton Counties which tied for fourth place with a reported kill of 68 deer. Deer were reported from all but two of the state's sixty-seven counties. Lawrence and Philadelphia were in the latter category.

There was a small reduction in the

SUCCESSFUL BOW HUNTER Zachary Balita, of Plymouth, tags his buck before dragging it out of the woods. Balita was one of the many bow hunters who connected on the opening day of the season. *PGC Photo by John Behel*



number of accidents during the past season. Fourteen reports of accidents were received by the Game Commission for the past season compared to 16 for the 1960 season. Percentagewise this amounts to a 13 per cent decrease in accidents which is an encouraging trend. The same pattern persists from year to year in the type of accident. Self injuries or injuries inflicted upon a companion were caused by carrying arrows either nocked in the bow or loose in the hand.

Reasons for Accidents

While it is impossible to predict the conditions under which every accident will occur or to hope that all accidents will be eliminated, it can be stated categorically that the type of accident reported can be practically eliminated by carrying all arrows at all times in a quiver provided with a metal or hard leather pocket which completely covers the metal broadhead. Draw your arrow from the quiver when you have stopped moving and are ready to shoot. If you have nocked your arrow and it is necessary to take a step to get an open shot at your quarry, take your eye from the game and look where you step.

A few actual case histories will illustrate the necessity of abiding by these rules: Case 1. A hunting companion carrying an arrow nocked in the bow slipped and fell, driving the head of the arrow into the thigh of his companion. Case 2. Two bow hunters were walking in single file through a woods. The leading hunter entangled his bow in a limb which caused him to stop quickly and turn. His companion's nocked arrow struck the leading bowman in the forehead. Case 3. A deer appeared and the bow hunter's arrow slipped off the bow and fell. He grabbed for the arrow and the point penetrated his hand. Case 4. Slipped on wet leaves, fell and broadhead punctured left leg. Case 5. Hunter loosed arrow at a deer and then ran toward it. Felt pain in his right leg. Arrow had punctured leg between



PGC Photo by Bob Parlaman

OUTFITTED FOR THE SPORT is this bow hunter in the northwestern part of the state. He and his fellow bow hunters had the most successful season in history when they harvested, state-wide, 1,517 deer.

knee and ankle. Case 6. Carrying bow in right hand with a loose arrow on top of and parallel with the bow, broadhead pointing to the rear. Stepped in a depression, lunged forward but caught balance and did not fall. Arrow pierced right thigh. Case 7. Running through the woods, arrow fell from the bow and landed point up. The arrow pierced the hunter's thigh.

Mistakes Man for Deer

Once again as in 1960 we have a case of hunter mistakes man for a deer resulting in complete penetration of the upper left arm of the wounded bowman. The offender was walking along a stone wall paralleled by a row of spruce trees. He heard twigs snapping and thought that he saw a deer. He laid three arrows on the ground and stood up with one nocked in his bow. The deer, or so he thought, had not moved and he loosed an arrow. He did not see or hear the supposed deer leave the area and he went forward and discovered that he had shot a fellow bowman. The vic-

tim stated that he was walking toward the wall when he was shot.

A measure of the conduct of bow hunters is the record of violations of the law. The past season saw an increase from the previous high of 81 violations to 115. Of these violations 36.5 per cent stem from hunting after hours. Every bow hunter is well aware of the habits of deer and knows that they move mostly at night, leaving their bed grounds in the later afternoon and early evening and returning to the bed grounds at a fairly early hour in the morning. Many of us are convinced that our best opportunity to bag a deer is early morning or late evening. In central Pennsylvania sunrise on October 1 is 6:03 E.S.T. and the legal opening hour is 6:00 a.m. Sunset on the first day of the month is 5:50 p.m. and the legal closing hour is 5:30. On October 27, the last day of the bow season, sunset occurred at 5:11 p.m., E.S.T. It should be obvious that we cannot depend on sunrise and sunset to govern our hunting hours. We must depend on our watch. Make it a practice not to string your bow prior to the opening hour and unstring it promptly at the legal closing hour. Then, regardless of how long it may take you to return to your camp or car there will be no suspicion that you are hunting after hours.

Jack Lighting Violations

Jack lighting resulted in 20 violations. It is illegal to spotlight deer when you have your bow in the car. Resist the impulse to sweep the fields and meadows with your spotlight while you are returning from a hunt.

Next in numbers were those bowmen who failed to display their license tag while hunting. A total of 18 bow hunters fell victim to this elementary requirement, 9 were convicted for other license violations.

Hunting from automobiles resulted in 11 convictions. We will probably always have with us a small minority who deliberately violate the law, but we can certainly improve on this record by fulfilling the minor requirements which we seem to neglect. Failure to maintain or produce a roster or transporting an untagged deer certainly cannot be excused and should not happen. The total penalties collected for archery violations amounted to $4,002.

The success of any hunting season cannot be measured in the game bagged but in the pleasures of the outdoors and the companionship of like minded friends.

Released Ducks Choose Own Flight Course

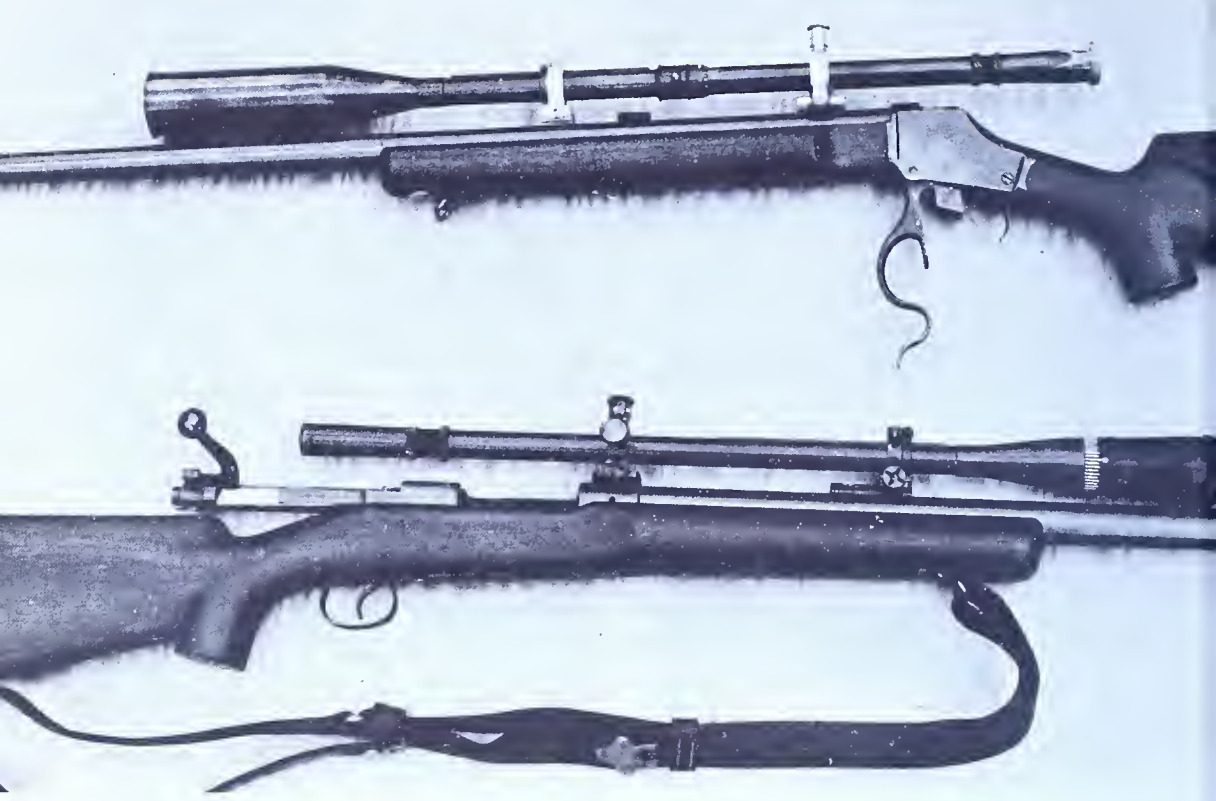
The Game Commission's waterfowl program includes the propagation of ducks and the development of wetland areas. Since 1951, 83,251 ducks were raised, leg-banded and released and 34 marsh ponds were established in Pennsylvania.

In all, 10,504 duck band recoveries have been recorded, 9,290 of them by hunters in Pennsylvania. Outside the Commonwealth the highest number of band reports, 279, came from New York State. Many other ducks flew even farther north. Surprisingly, 193 band recoveries were from the Province of Ontario. These were other states from which large numbers of the bands were reported: Ohio, 122; Maryland, 119; New Jersey, 73; and North Carolina, 67.

The Commission-liberated duck which made the longest known westward flight was reported in the State of Washington. The report of the duck that winged its way farthest south from Pennsylvania came from the Island of Jamaica in the British West Indies.

Otter Report

An otter was reported on East Branch of Sugar Creek above Troy Center, another reported on Muddy Creek near Little Cooley. — District Game Protector William E. Lee, Titusville.



LIKE THE WINDER MUSKET is this high wall Winchester Model 1887 (top) single-shot with the same action and barrel length as the famous old-time musket. The lower rifle is Model 54—30/06 Winchester Bull Rifle with Lyman 15X telescopic sight, a 1,000-yard match rifle.

About Col. C. B. Winder and His Musket of 1905 . . .

Indoor and Outdoor Small-Bore Rifle Development

By Jim Varner

I HAD the pleasure of visiting a good friend recently. This "old-timer" has a collection of firearms. He handed me a long, slender single-shot rifle whose familiar lines seemed to strike a sensitive spot in my makeup.



Along with the rifle, he produced several of the old original 75-foot N.R.A. indoor targets. Each target showed very tight groups. The reaction was as though my memory went into reverse. My readers will call this "nostalgia."

Call it what you will; but the fact remains, we had been discussing the steady trend toward more intensive small-bore indoor and outdoor training programs sponsored by the National Rifle Association for 1962. Both of us were old Sea Girt and Camp

Perry Riflemen, dating back to 1908 and 1910.

The firearm placed before me was a .22 caliber Winchester single-shot rifle popularly known as the WINDER-MUSKET, a gun that did more than any other to stimulate small-bore shooting interest in America. The WINDER MUSKET provided surprising accuracy, and its low cost made the pleasures of indoor and outdoor precision target shooting available to thousands who never realized such shooting was possible.

"So they called this super-accurate single-shot a musket," I finally said after reluctantly placing it in the rack. Most of us think of a musket as a big calibered, long-barrelled monstrosity totally unqualified for bull's-eye accuracy.

Shooting Is Old Sport

Americans capable of correctly handling firearms realize shooting is as old as our national history. Early frontiersmen enjoyed their beef and turkey shoots, using long flintlock rifles and later match shooting became more serious in the cap lock era.

During the year of 1871 the National Rifle Association was organized to improve the marksmanship of the National Guardsman and the era of the famous Creedmore Range had its beginning. Early international matches brought out the excellent Sharps and Remington big-bore long-range breechloaders. These and similar arms were made up in military models and used by state National Guards, who at that time, procured their own arms. However, these large caliber long-range rifles did not fill the void for mass training of the civilian shooter. They were too elaborate and expensive for practicing.

National Guard Used It

In the late 19th century after the advent of .22 rimfire ammunition, indoor shooting became popular. State National Guard officials, concerned with rifle training, saw in the little .22 cartridge means for conducting indoor training of Guardsmen during the winter.

During 1904-05 the New Jersey National Guard obtained .22 caliber barrels and fitted them to the 1898 Krag rifle which they previously had attempted to use for gallery practice by crimping a 42-grain round ball in the neck of the 30/40 case with five grains of black powder for the propelling charge. This was hopelessly inaccurate, and prone to foul the barrel and action badly.

It is impossible to understand why our Ordnance Department would have men so woefully short on ballistic experience as to suggest such a sub-load for a smokeless powder rifle whose rifling was cut to one complete turn in ten inches — a very quick twist necessary to spin a long 220-grain .30 cal. bullet. Before the Krag was adopted we did use a sub-load for the 45/70 Springfield which carried 20 grains of black powder and a 200-grain conical lead bullet. This showed fair accuracy if one cleaned the arm

EARLY MODEL 52 heavy barrel .22 cal. match rifle is on top. This was the first one made with a nickel steel barrel. Bottom is the latest Model 40X Remington standard single-shot target rifle.



TWO ACCURATE target rifles are the Winchester 52 (early model) bull gun on top with a 16X Fecker scope 1⅝ and below the latest Remington 40X with 15X Lyman Super target scope.



frequently. Winchester's 1897 catalog quotes this same load and one with 10 grains of smokeless powder. These were expensive practice cartridges and served practically no purpose except to furnish noise and the right to go through the motions.

Guardsmen in other states were also looking for equipment suitable to conduct training indoors. Around January, 1905, Winchester announced the production of a single-shot .22 caliber rifle designed especially for indoor target practice by militia organizations, colleges, schools and rifle clubs. This new .22 caliber musket weighed 8½ to 9 pounds and was 44 inches in length.

The man responsible for this rifle was Col. C. B. Winder, Spanish-American War veteran from Ohio. His search for the utmost in precision accuracy for training marksmen caused him to personally contact the good old New Haven firm. They named it the "Winder Musket" and nearly 75,000 were produced.

Association With Col. Winder

The writer's association with Col. Winder lasted through 1911 and 1913. He was a rather unusual character, tall, lank, rather awkward and set apart by his swarthy complexion, straight black hair, and prominent nose. His cool, deliberate and accurate shooting was interesting to observe. He was one of the prominent marksmen of the period and especially enjoyed the 800-, 900- and 1,000-yard matches. His "wind doping" ability on the long ranges was uncanny. Quite often I was paired with him and succeeded in gaining considerable experience as I watched him carefully check the flow of the "mirage" during hot days when it seemed to be really "boiling" across the level range to the indistinct bull's-eye over ½ mile away. Through the long 33-X Bardoux spotting scope the 1,000-yard target often appeared to be dancing and shimmering on the crest of a heat wave. Carefully and deliberately he would squeeze off the trigger of his national match star gauged Springfield, then the big target slipped down behind the butts way out there along the shore of Lake Erie and when it reappeared there was usually a white disc hanging on the face of the bull's-eye. Immediately the monotonous voice of the scorekeeper, sitting at his schoolroom-like desk back of the line, would announce: "Colonel Winder's eighth shot for record a 5."

GETTING SHOOTING EXPERIENCE well above the average adult are these 15-17-year-old lads using .22's and .30 cal. Garands. Each of these youngsters is capable of better than expert scoring with the .22. The Garands are easy.



This "5" meant he was placing that speed-demon of a 150- or 180-grain .30 caliber bullet through the 36-inch bull's-eye 1,000 yards away. Today they have to include a 20-inch X ring to separate the "men from the boys" so many possible scores are scored at this extreme range with modern ammunition.

Col. Charles Winder contracted tuberculosis and died in the Army Hospital, Fort Bayard, N. M., March, 1921, at the age of 47. The writer believes he is safe in giving this dedicated rifleman and promoter of marksmanship, and the rifle he helped design, credit for the development of sensible precision indoor and outdoor shooting with the economical .22 caliber cartridge.

Other .22 Rifles

Other than Schuetzen and custom .22's, no small-bore target rifles were available commercially for serious range training when the Winder musket was placed on the market in 1905. Shortly thereafter the U. S. Gallery Practice Rifle, Caliber .22, was made available to clubs by the government. Hopkins and Allen Arms Co. came out with a bolt-action military model .22 called the American Military Rifle. The .22 Stevens, Model No. 414, appeared about 1911, but most all of these were only makeshifts when compared to the Winchester, which had been steadily improved as far as balance, sights, and smoothness of action was concerned.

During the National Matches of 1919 at Caldwell, N. J., Winchester introduced a .22 target rifle which incorporated numerous advanced ideas. It was called the Model 52. Most of our readers are familiar with the reputation of this precision firearm. It has been steadily improved upon during its 43 years of leadership. Since the 52's inception, the best that competitors can hope to accomplish is to equal its performance. Actually, the only target rifle made today that closely parallels Model 52's performance is the Remington 37 and their latest 40S model. We have foreign-made firearms users claiming such arms are ahead of our Winchester 52 and Remington 40-X in accuracy. When we get licked by .22's of foreign make, let us not blame our rifles, but admit the shooters were not holding as good as the Vodka drinkers or the mountain climbers. To me this is a mental complex we must avoid.

Lost Their Appeal

Single-shot target rifles lost their sales appeal after the clip-loading 52's and 37 Remingtons took over despite the fact very few rapid-fire matches were ever incorporated in the small-bore State and National programs. Today the trend is back to single-shot rifles with stiff international type receivers that allow minimum vibration and torque when the little .22 long rifle cartridge is fired. Both the largest Winchester Model 52D and the Remington 40X are precision single-shot arms. With the new Olympic type sight combinations or a high grade target scope they allow the marksman no alibis.

Cartridge Kept Pace

Along with the utmost in precision bored rifle barrels the .22 long-rifle cartridge has kept pace. It is the highest developed rim-fire cartridge ever made. How well I remember when it was loaded with 5 grains of FFFG or finer black powder and a 40-grain outside lubricated bullet. For the best shooting it required frequent cleaning of the barrel. Some used warm water with plenty of soapsuds, while others preferred the well-known Hoppes No. 9 solvent which was put on the market around 1910. I have used everything from kerosene to Hoppes No. 9, but prefer the latter.

About the time of the Caldwell shoot we began to get special .22 target cartridges such as the Remington Palma Match, Winchester Precision, and U. S. Cartridge Company's .22 N.R.A. These were all loaded with

lesmok powder which was smokeless and black powder mixed. It was a very even-burning accurate powder, but still required considerable cleaning. Some excellent scores were made with lesmok ammunition. Both this and the black powder mentioned above fogged up an indoor range badly unless it had excellent ventilation.

When looking back it is difficult to believe such fine scores were shot with this little cartridge indoors and up to 300 yards outdoors. The old 200-yard small-bore target was an exact replica of the 1,000-yard military target. It had a 7-inch bull's-eye. Wind "doping" at 200 yards with the .22 long-rifle cartridge was just as difficult as the .30 caliber match ammunition at 1,000 yards.

The rather brief rundown on our rifle and ammunition development since 1900 will give our readers something to ponder. If you are a National Rifle Association member of some years standing, you will agree this patriotic organization does not stand still. I have been a member and instructor almost continuously since 1912 when our American Rifleman Magazine was called "The Arms and The Man." This group of real Americans fights the shooter's battles, but is he a sportsman when he fails to come to their support by not being a member?

Our indoor and outdoor small-bore shooting tournaments would not be worth a "hoot" if we did not have them. Energetic small rifle clubs have advanced to regional status and they in turn have advanced to state, national and international prestige. Sometimes we feel our efforts toward teaching rifle shooting produces no results. Such is not the case if you have kept even one boy or girl from an accident, produced an expert or even made a loyal N.R.A. member out of them.

The Winder Musket and Col. Charles Winder of the Spanish-American War fame left their record and it was good. The musket alone survives in collections, Many, if resurrected, would surprise the expert holder if given a chance. Ammunition, formerly capable only of a 4-inch group, has been perfected to where one-inch groups can be expected at 100 yards. Recent junior training at the big 109th Infantry Battle Group Armory by the Scranton Jr. and Sr. Rifle and Pistol Club is closely paralleling other active N.R.A. training spots by producing expert riflemen in the 14- to 17-year-old class.

New target rifles, spotting scopes, shooting coats, gloves and other shooter's accessories are beginning to appear on the line. A good sign the youth of 1962 are following in the footsteps of men like my friend Col. C. B. Winder. Reader friends—do become a member of the N.R.A. It should have at least one million members instead of half that. It is the best $5 the American shooter ever spent.

LATEST REMINGTON commercial version of the .22 cal. international rifle (Olympic).





OLD TREE

OLD tree, what of that storm that builds above you?

Your leaves are gone. And, the same disease that stripped your branches is coursing through your very fiber. You don't have long to stand. The brittleness of your age may no longer let you bend before this storm.

You're tired, tree. That one dried apple in your top is all that is left of your usefulness. If this storm doesn't get you, the next one, or maybe the next one, will. You are finished. Why don't you drop instead of staring against the storm?

We don't need you any longer, tree. Your seed is growing along the hedgerows all around you. Make way; let those youngsters have the sun. That old ground hog beneath your roots doesn't need you. Birds don't like to nest where no leaves will grow.

Fall over tree. Rot back to the earth that spawned you.

Why do you stare at the storm, tree? Do you like storms? Look how they have twisted your limbs and gnarled your knuckles! What are you watching? You're dead on your feet.

Why be so proud? You know you can't last much longer. This was your last season.

Oh well, reach for the rain if you want to. You won't need much water to die on. I guess you won't hurt anything. That's a good spot to die. The soil is rich, and rabbits like the grass. The apples were good while they lasted.

Maybe I shouldn't watch any more, tree. Take these remaining moments to reflect if you wish. You won't be here when I pass again. I'm sort of sorry I was rough with you.

Stay with your storm, old tree. I've got things to do. I've got to get ahead of this storm.

It isn't dark on the horizon.

—Keith C. Schuyler

Letters . . .

He Gets Out and Hunts

I have just read your editorial in the February issue of the Pennsylvania GAME NEWS where you tell of the unsuccessful deer hunter who remarked "if I worked for the Game Commission I'd be ashamed to admit it." I might add that you and the boys can be proud that you work for the Game Commission. I have harvested a deer each year for 16 years and 21 out of the last 25 years. So you see it takes all kinds.

I doubt if you can get many deer standing on the corner or hanging on to a bar. You must get out and hunt.

Wray Port
Girard, Pa.

* * *

Good for the Young Set

Let me say at this time that I think your magazine is one of the finest of the state's activities, especially for young men just being introduced to the use of firearms and hunting.

I was born and raised in Pennsylvania until I went away to war in 1917 which incidentally was with the 28th Division.

Senator Edward Martin also Major General Commanding 28th Division is one of our outstanding soldiers. I hope he is still around.

With best wishes and admiration for a fine constructive job of citizenship training for young Pennsylvanians, I am

Sincerely,
Winfield R. McKay
Colonel, U.S.A., Retired

GAME NEWS in Wisconsin

The whole family enjoys your magazine. We also have learned a lot about nature and wildlife. My oldest son takes it to school for science class when they discuss conservation.

We live in the Kettle Moraine near West Bend, Wis., but Pennsylvania is our second home. My husband is from Mill Hall, Pa.

I especially admire the drawings, they are so real looking and dramatic.

Yours truly,
Mrs. Albert Fisher
Route 5
West Bend, Wis.

* * *

A Good Resource Publication

I have been a subscriber of your magazine for several years. As state chairman of Junior Activities I have been recommending it as a good resource publication for leaders working with children. I am particularly fond of the articles of Ned Smith such as "Walkin' Shoes." Many of these articles are helpful when groups of children are taken on nature hikes by those with less than a college degree in biology (as many of us happen to lack). Keep up this fine work for our youth.

Would it be possible to put out a special issue sometime "Just for Juniors"? Think this over.

Sincerely,
Mrs. F. Wayne Poff
3309 E. Hardies Road
Gibsonia, Pa.

Game News Paid Circulation Continues Climb

The paid circulation for Pennsylvania GAME NEWS reached 74,767 for the March, 1962, issue, an increase of more than 10,000 over a year ago. Among the readers of the Game Commission's official publication are well over 11,000 subscribers in the 49 other states and 19 foreign countries.

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IT'S THE LAW

NOT ALL GAME LAW VIOLATIONS ARE INTENTIONAL. AS A SERVICE TO COMMONWEALTH SPORTSMEN, GAME NEWS, IN COOPERATION WITH THE DIVISION OF LAW ENFORCEMENT, TAKES THIS MEANS TO BRIEFLY CLARIFY SOME OF THE MOST FREQUENTLY MISUNDERSTOOD OR LEAST KNOWN GAME LAWS.



QUESTION:

CAN I BE FINED FOR NOT DISPLAYING MY HUNTING LICENSE, EVEN THOUGH I HAVE ONE IN MY POSSESSION?

ANSWER:

YES, THE LAW REQUIRES THAT THE LICENSE BE DISPLAYED WHILE HUNTING.

QUESTION:

I AM A LANDOWNER AND FARMER LEGALLY ENTITLED TO HUNT ON MY OWN LAND WITHOUT A LICENSE. DO I NEED A LICENSE TO HUNT ON ADJACENT PRIVATE LAND?

ANSWER:

NO, PROVIDED YOU HAVE ADVANCE WRITTEN PERMISSION FROM THE LANDOWNER.



NED SMITH

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Pennsylvania GAME NEWS

MAY, 1962

TEN CENTS



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Bud Taylor

COVER: The return of the bluebird to Pennsylvania in March is a true sign that spring has also arrived. By May, the bluebird pair has selected a cavity in a tree or post or perhaps a bird box erected by some hopeful young Pennsylvanian. In the cavity, a lining of grasses is placed for the four to six pale blue eggs. Recent years have seen a marked decline in bluebird numbers. Some ornithologists claim that severe ice storms in the South a few winters ago were responsible, others say that the farm nesting sites are disappearing and so are the bluebirds.

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EDITORIAL . . .

Project 70—We're for It

THE Pennsylvania State Legislature has given a first endorsement to a $70,000,000 bond proposal to underwrite a new outdoor recreation program in the Commonwealth. This far-reaching plan can only become reality if approved by two sessions of the Legislature and then passed by a public vote.

This impressive recreation program known as "Project 70," if approved, shall first establish three giant Federal parks based upon three great multi-purpose reservoirs. Secondly, will lay the foundation for a new year-round recreation industry in our mountain counties, making them a potential new American Vacationland easily accessible by the new Interstate Highway network. Third, vital fish and wildlife areas, now threatened with obliteration by increasing private development, will be preserved for public use. And finally, the major population centers will be ringed with parks, reservoirs, and open spaces thus giving them the recreational and scenic advantages which can spell prosperity in the mid-20th Century. All this by 1970.

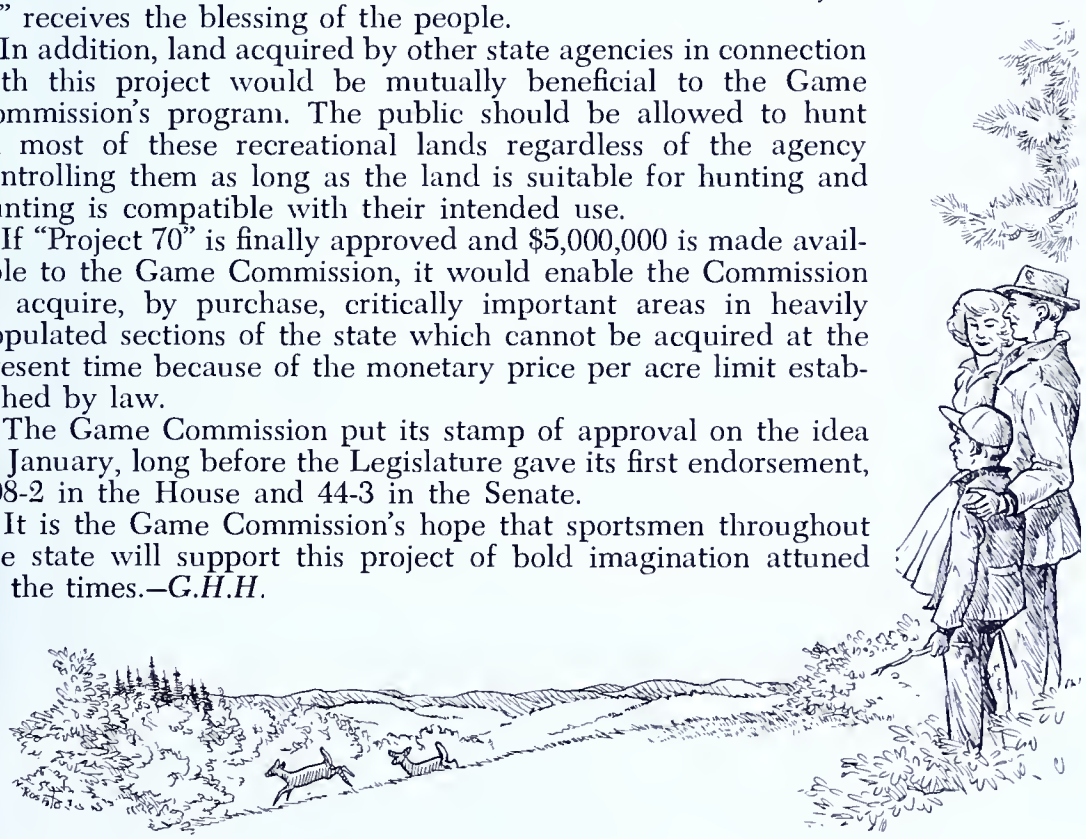
Of the $70,000,000 of the bond issue, $10,000,000 would be provided for use in land acquisition by the Game and Fish Commissions. A sizable amount of highly desirable public hunting land would become obtainable for the Game Commission if "Project 70" receives the blessing of the people.

In addition, land acquired by other state agencies in connection with this project would be mutually beneficial to the Game Commission's program. The public should be allowed to hunt on most of these recreational lands regardless of the agency controlling them as long as the land is suitable for hunting and hunting is compatible with their intended use.

If "Project 70" is finally approved and $5,000,000 is made available to the Game Commission, it would enable the Commission to acquire, by purchase, critically important areas in heavily populated sections of the state which cannot be acquired at the present time because of the monetary price per acre limit established by law.

The Game Commission put its stamp of approval on the idea in January, long before the Legislature gave its first endorsement, 198-2 in the House and 44-3 in the Senate.

It is the Game Commission's hope that sportsmen throughout the state will support this project of bold imagination attuned to the times.—*G.H.H.*



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WALKIN' SHOES

By NED SMITH



WHISTLIN' ROBERT

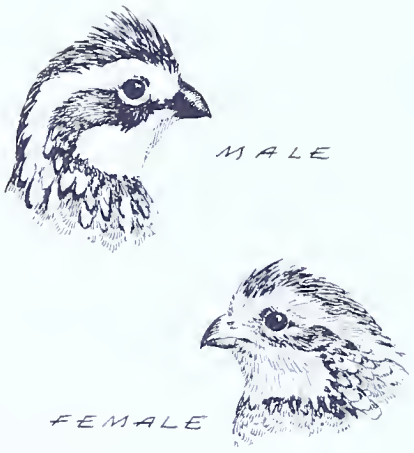
1. How heavy is an average bobwhite?
2. Where do quail build their nests?
3. What is the most conspicuous difference between the plumages of the male and female?
4. What is a flock of quail called?
5. Quail hold well for pointing dogs. True or false?
6. How long after hatching do the young leave the nest?
7. Would a dozen eggs constitute an exceptionally large clutch of eggs?
8. Does the male bobwhite assume any responsibility in the care of the young?

"BOBWHITE!" What sound can warm the heart of an outdoorsman like the call of a quail on a blossom-fragrant May morning. Though the fence post from which he sings is two fields and an orchard away, the notes come through loud and clear, little diminished by distance. You needn't be an ornithologist to identify the vocalist—Bob White speaks his name so distinctly that even folks who wouldn't know him from a Plymouth Rock immediately recognize the song as his.

He makes a handsome picture perched there on his favorite vine-trimmed post—a bit on the plump side, perhaps, but impeccably attired. The most striking feature of his plumage is the dazzling whiteness of his head and throat, boldly divided by a black-trimmed brown ear and neck patch. His expressive crest is raised and lowered with each change in attitude or emotion. From the back he appears chiefly chestnut brown in color, mottled and barred with gray, buff, and black, and graying noticeably toward the tail. His underparts are basically white washed with bright rust or pinkish-brown, deepest just beneath the white bib. The sides are conspicuously streaked with orange-brown and the underparts in general are finely barred with black.

His mate is somewhat duller, but the most noticeable difference is the yellowish-buff color of her face and throat which replaces the male's immaculate white.

Bob and his mate were only recently part of a large covey. All winter long they and about two dozen other quail lived together as amicably as the proverbial "birds of a feather," eating, sleeping, traveling, shivering, and going hungry together. But as the days lengthened and the temperatures moderated the influence of the coming mating season made itself felt. The usually unassuming males suddenly



took to showing off for the hens. Bowing low, elevating their fanned-out tails and spreading their drooping wings they scampered and rushed around any female that looked the least bit impressionable. Competition for attention led to fights, and not infrequently Bob was forced to drive away other cocks with designs on the hen of *his* choice.

Coveys Split Into Pairs

But now in early May the covey has split up into mated pairs that are interested only in building nests and rearing young. Bob spends much of the day on his singing perch and, although we'd like to think he is singing for *our* enjoyment, the fact is he's merely notifying other cock quail that this particular piece of real estate is his and warning them to stay out.

He'll probably not experience any intrusion, however, for by this time most of the bobwhites in the vicinity are paired and established in their own bailiwick. Nest sites will have been chosen, probably in high grass along a fence row, roadside, or stream bank, or possibly in a field of alfalfa or timothy and clover. To make her nest the female merely scratches a depression in the ground and lines it with soft dead grass. She often arches it over with grasses so as to partially conceal her as she incubates.

Quail hens are prolific layers. A complete clutch might consist of from ten to twenty or more top-shaped, pure white eggs, laid at the rate of nearly one a day.

Incubating birds are almost impossible to discover unless they flush, but skunks, opossums, raccoons, and black snakes are often led to the nest by scent or blundering good fortune. The prize is a clutch of eggs and sometimes the sitting hen as well.

Hard to Flush

As incubation progresses the sitting bird becomes more and more reluctant to leave the nest, and when forced to do so often flutters along the ground feigning injury in an attempt to lure the intruder from the vicinity.

Although the cock quail is sometimes credited with taking a hand in the incubating duties he would much prefer to perch on a nearby fence post, stone fence, or low tree limb and whistle. In fact, it is during the nesting season that the familiar "bobwhite" call is most frequently heard.

On the twenty-third day of incubation the chicks make their debut. With the "egg tooth" on the end of their bill they make an encircling cut around the large end of the egg and, flipping it open like a hinged lid, the wet, bedraggled little creatures wearily wriggle and squirm free of their calcium prisons. The hopelessly unattractive things need only dry their natal down to become the cutest, fuzziest little chicks imaginable. Scarcely larger than a good-sized fingertip, they are buffy beneath and chestnut brown marked with dusky above. A conspicuous dark streak extends backward from each eye.

Hatch and Run

The chicks can run about as soon as they are dry, and they usually leave the nest the same day they are hatched. Both parents share the responsibility of teaching them to find food, brooding them at night and during inclement weather, and coping with any

enemies that might appear. The young soon learn to squat motionless at a danger signal from the adult, and so well do these protectively colored little mites blend with their surroundings that it is virtually impossible to find them. In the meantime the old birds either rush at the intruder, fuss anxiously from nearby concealment, or try to entice him away with the old broken wing act, depending on the nature of the threat and their own resourcefulness.

Quail chicks are probably more vulnerable to adverse weather and predation than any other young game birds. Cold, wet weather often takes a heavy toll of small chicks, while foxes, weasels, certain hawks, and stray cats are their most serious predators.

Can Fly in Two Weeks

Fortunately, baby quail develop rapidly. At two weeks of age they can fly short distances and in a few more weeks they can buzz from the ground like their parents. Four-month-old birds closely resemble the adults, and by hunting season are nearly identical in plumage and size (adults average about seven ounces in weight). Hunters can identify the birds of the year in their bag by the pale tips on their outer primary coverts; the same feathers on older birds are plain gray.

In the fall it is not unusual for several families of bobwhites to join forces, forming coveys of thirty or more individuals. They pass the autumn and winter in these harmonious groups, dispersing only when mating begins in the spring.

Although early summer is the crucial time for young quail, winter is a greater threat to the survival of adults. Food can be hard enough to find in satisfactory amounts when the ground is bare, but when deep drifts cover everything—occasionally including the roosting birds themselves—things can really be tough. And if those deep snows become crusted for any length of time quail are going to have a rough time of it. Deep snows also engulf much of the life-saving cover and provide a white background against which it is impossible for a covey of bobwhites to hide from predators. Such inhospitable conditions have been known to nearly wipe out the bobwhite population, as happened in Pennsylvania during the disastrous winter of 1935-36 and again in 1944-45. Research studies by the Pennsylvania Game Commission reveal that the most effective means of combatting these winter losses is the establishment of first rate cover plants that also provide a measure of winter food. Japanese honeysuckle seems to be the most promising plant for the purpose, with osage orange and common greenbrier also recommended.

Throughout the rest of the year food isn't much of a problem for Bob White and his kin. Young greens are avidly consumed in early spring until insects appear in appreciable numbers. From then until autumn insects, berries, small wild fruits, and green plants form the bulk of the quail's diet. Autumn foods consist primarily of weed seeds, dried fruits, and waste grain. Because of the huge numbers of destructive insects and noxious weed seeds consumed the bobwhite is considered a valuable bird to have around the place—a fact of which most farmers are well aware.

Bobwhites have interesting and amusing ways. They love to dust, and



in dry summer weather often resort to favorite dusting spots in dirt roads, along field edges, or other places where dry soil is exposed. Flushed from their hiding places after their dust baths they appear to explode from the ground in a puff of smoke!

The covey roosts in a unique circular formation on the ground, tails together and heads outward, radiating from the center like the spokes of a wheel. Unexpectedly stepping into one such explosive huddle is enough to wreck the nerves and marksmanship of the best shotgun artist.

Quail have quite a vocabulary. When undisturbed at their feeding they converse at a great rate in subdued tones that suggest they might be talking to themselves, rather than to one another. Disturb them in heavy cover, and you may hear one or more complaining about the intrusion before bursting into flight. A single bird separated from the covey will call "Purr-leer; purr-leer" until the rest of the gang is located and rejoined. And of course, every bobwhite worthy of the name can whistle his own name.

Hunters are enthusiastic about the bobwhite, but owners of pointing dogs are particularly impressed with his sporting qualities. He lies well to the point—indeed, he and the woodcock are the only game birds in Pennsylvania that can be depended upon to do so. This characteristic makes him an excellent bird on which to train a young pointer, setter, or Brittany.

On the table, he is a gastronomic delight. I never cease to marvel at the ease with which a brace of quail on toast can make converts of folks who "don't care for game." A sad end for so noble a bird? Not when held to reasonable limits, I contend. It makes more sense to me to harvest some birds from large, healthy coveys in hunting season than to commit the surplus to death by exposure, lack of food, or predation during the advancing winter. They're too good to waste—and pass the paprika, please.

ANSWERS TO QUESTIONS

1. **Approximately seven ounces.**
2. **On the ground.**
3. **The head and throat of the male are white, the female yellowish-buff.**
4. **A covey or bevy.**
5. **True.**
6. **Usually as soon as they dry off.**
7. **No, they often number many more.**
8. **Yes, he shares such responsibility equally with the female.**

Book Notes . . .

New Book for Turkey Hunters

"The Turkey Hunter's Guide," by Leon Johenning, of Lexington, Va., may be of considerable help to the enthusiastic turkey hunter. The 70 pages of information reveal certain basic hunting principles beneficial to the reader with an honest desire to improve his woodcraft knowledge of the American wild turkey.

The theme follows a conversation of one hunter confiding in another. The book may be obtained directly from Mr. Johenning at Leon's Shop, Lexington, Va., for $2.50.

The author has been an exhibitor at the Pennsylvania Sportsmen's Show in Harrisburg for the past six years. Here he displayed his famous mouth-operated turkey caller. It is a small boxlike affair with a rubber diaphragm attached.



WILDLIFE REFUGE is an isolated camp in Pennsylvania's Grand Canyon owned by E. Neal Mack. Famous Pine Creek is in the foreground.

There Is an Overwhelming Lack Of Feminine Touch About . . .

Grand Canyon Camp

By Ed Van Dyne

Photos by the Author

THE "Wildlife Refuge," E. Neal Mack's camp in the bottom of Pennsylvania's Grand Canyon near Wellsboro, is one of the most isolated, inaccessible and wonderful hideouts of which an outdoor man can dream.

Mack, a popular Troy agriculture teacher, Troy Free Fair manager and former resident of Wellsboro, has guided many of his friends to it. Most of them love it.

The Mack camp can be reached just three ways: by water when Pine Creek is high enough for rafting or canoeing; via a five-mile railbed hike and fording of Pine Creek; or by negotiating the almost sheer 800-foot wall of the Canyon.

Most prefer the third route. You leave the car by the Ansonia-Letonia Road, shoulder pack and follow a small stream canyonward.

Eventually the stream plunges over the Canyon rim. Near the waterfall is a ten-foot aluminum ladder which from the top never seems securely set. You ease down it to a rock ledge where the Canyon trail starts.

The trail is tough, especially with a heavy pack. Those who have hiked the Turkey Path at Leonard Harrison State Park across the Canyon can



CARRYING SUPPLIES is Freddy Mack, 12, son of the owner, as he lowers himself down the ladder along the steep trail to the camp.

imagine it—a turkey path with obstacles.

In many places the narrow trail is little more than a trace for foolhardy deer. A mis-step will take you half way to the Canyon floor in seconds.

Once in camp, you are just about as far from civilization's din as it's possible to be in 20th Century Pennsylvania. Telephone and TV are blissfully distant. You see the green Canyon walls, a patch of sky, birds and other wildlife and, occasionally, an ambitious fisherman. You hear bird songs and the steady flow of swift, clear Pine Creek.

Few women have set foot in the Refuge. The attractive and amiable Mrs. Mack visited it in 1942, encountered one of the few rattlers which inhabit the locality and hasn't been back since. There is an overwhelming lack of the feminine touch about the place.

Once a lumber camp, the building and 13 acres were bought years ago by a Mack relative. In those days six New York Central passenger trains threaded the gorge each day. You could flag one and ride to Wellsboro for 19 cents and supplies came in by rail.

All that's gone now. Surrounded by Leonard Harrison and Colton Point State Parks, the Refuge stands in splendid isolation.

The structure today is in less than A-1 repair. In fact it looks like a combination "Ramshackle Inn" and Charles Addams' Halloween cartoon.

After a hard day of loafing or of fishing in Pine Creek, Refuge visitors usually turn in early. The nightly bedtime ritual includes the hanging high of any gear or supplies likely to prove tasty to porcupines, bears or coons.

First-time visitors are often given the honor of sleeping in the "belfry," an airy upstairs room which offers more privacy than the cluttered first floor. It's an ideal place for sound sleep, until the bats start nightly missions.

Throughout the long, dark night the bats wheel and dart. Their constant action sets up a form of air conditioning.

If bats weren't so unpopular, writers might find much poetry in their wingbeats. Equipped with natural radar, the night-winging bat flies with none of the blundering confusion of the moth or the trapped bird. His propulsion is smooth as a Rolls Royce motor.

What really gets the neophyte though are the ones that simply hang from the rafters scratching themselves and squeaking all night. There's only one way for a strong man to combat this situation: duck under the covers!

But even for those who sleep in the belfry, a Refuge visit is worth while.

The Wildlife Refuge is a place where a fellow can get back to nature without even trying.

Buck Deer Do Grow a New Set Every Year...

The Magic of Deer Antlers



MAY JUNE JULY

IT IS amazing how many sportsmen still do not believe that buck deer shed and grow new antlers every year. It is true that this is a very unusual phenomenon, but magic or not, it happens!

Why does a buck lose his antlers? I have heard many hunters discussing this in the field during the hunting season. One of the most popular misconceptions seems to be that the antlers are shed after the first prolonged cold spell, a spell so severe that the antlers freeze and drop off. If this is true, why don't all males shed them at the same time? Obviously this is not the case; many retain their antlers well into late winter. Remember when you heard of that six- or eight-point buck seen in February, or perhaps March (February cover of GAME NEWS)? Did you ever see a "spike" then? Why not?

We don't have all the answers for why antlers are shed and when, but we have a few leads. Much work has been done on the growth of antlers, and several interesting facts have come to light as by-products of these investigations.

By Stanley E. Forbes
Game Biologist

Speaking of light, this has much to do with the growth and, we suspect, the loss of antlers. It has been pointed out by many workers dealing with the biology of deer that antler growth is what might be termed a "secondary sex characteristic."

When antler growth starts in the springtime, there is no interest in sex on the part of the male. Even while antler growth is progressing, male deer exhibit little if any interest in sex activity. But as the antlers attain maximum growth, changes take place within the body—changes which not only cause the antlers to harden and to lose the velvet, but which also cause the animal to become more like the "lordly male" of fantasy. The "Bull of the Woods" becomes more aggressive and shows an increasing desire to engage in physical combat, although at first his desire may be satisfied by "pushing around" a few trees. This activity accounts for the "buck rubs"



Photo by Leonard Lee Rue

IN THE VELVET is this healthy buck. He may be on his way to growing a huge rack, or he may finish up with four or six points. At present (June) he has only developed a portion of his rack-to-be.

with which most deer hunters are familiar.

By this time his interest in sex has become aroused, reaching its peak during the month of November. Shortly thereafter, because most of the eligible females will have been bred, his sex activity wanes; whereupon the "lordly male" loses his antlers—and his masculinity. I imagine he might feel somewhat like Samson who, when he lost his hair, lost his strength and his woman. All of these changes in the male deer have been influenced by secretions within the body as a result of glandular activity.

Light Affects Glands

The changes in glandular activity have been found to be influenced by the amount and intensity of light present during the various seasons of the year – not by temperature changes. Therefore, we can eliminate freezing as the cause of antler shedding and establish the influence of light as one of the causes, if not the cause. Remember, December 21, the first day of winter, is our "shortest" day of the year. It is around this time that most males start losing their racks.

Why don't all males shed their antlers at the same time? The earliest shedding date reported for Pennsylvania has been November 27. Many sportsmen report deer with loose antlers or an antler shed during the early part of the legal deer season, but many bucks retaining antlers have been observed as late as March. The reason appears to be that as long as the adult male keeps his breeding vigor, he will retain his antlers. Here again our studies to date have pointed up the importance of a good diet. A well fed and healthy male will retain his breeding vigor longer, and in some cases much longer, than his associates merely existing on an inadequate diet.

One item of interest to sportsmen is the per cent of adult males that shed both their antlers before the antlerless



Photo by Leonard Lee Rue

ANTLERLESS BUCK can be identified in the late fall and winter by the pedicel from which the antler has dropped. Each year buck deer lose their antlers and only the pedicel remains to tell the story.

season. Again we have little direct knowledge of how extensive this early shedding is, but we do have some indication. Over the past ten years, we have found that during the antlerless seasons the per cent of shed bucks has averaged about two per cent of the annual harvest, the extremes being 1.1 per cent and 2.9 per cent. This is the per cent of shed bucks found during hunting season examinations by Game Commission personnel. If these percentages are applied to the total antlerless harvest as reported by sportsmen at the close of the season, we find that 400 to 1,000 adult males or "shed bucks" are harvested during the special season. By comparing these numbers to the estimated adult male population prior to the hunting season, we can theorize that, on the average, only about .8 per cent of all adult males will lose their racks prior to the antlerless season.

But in the end, to all elusive males that escape the hunter during the antlered season, the inevitable happens—he becomes JUST ANOTHER DEER. However, there must be comfort in knowing that there will be another year—and a new and perhaps beautiful rack to display. (Pitman-Robertson Project W-48-R: The White-tailed Deer Study.)



Photo by Donald S. Heintzelman

BUCK RUB is shown here where a buck deer polished his antlers and perhaps removed some remaining velvet in preparation for battle with other bucks and the attention of the opposite sex.

Portraits of the Season

May

MAY sees the red bat back from the south to haunt the scented night. The ruts in the valley road are drying, snuffing out early tadpoles. The woods are a riotous tree-leaf green running to the hills. Blooded five-spurred columbine ride and dance on slender stems, and spent cherry petals rain through the valley with the whiteness of winter. The skunk and her brood wander Indian-file from good smell to good smell, and the chuck family sleeps wrapped in sweet clover dreams. Four young red bats cling with tooth and claw to their mother and get a dizzy ride over the pond in the failing light. The unencumbered males flick over the pond, dip to drink, rise on taut wings to snap the sky for insects. A screech owl shivers at the moon and a roll of thunder runs along the horizon, telling of distant rain on a warm May night. The heavy doe grazes on the tender new growth of the meadow and pays no heed to the bats whipping above her head, but sifts the moist wind with care, for even in May when life is young, death comes to the careless. The screech owl is back on his perch against the moon, dangling a mouse tail from the corner of his beak.—*John Guilday.*



Patience Is the Necessary Virtue for Outwitting Wildlife . . .

The Gentle Art of Being Still

By Albert G. Shimmel

PAPPY settled himself comfortably against the trunk of the twin cherry trees that guarded the deer crossing beside the ravine opening out into Hawk Hollow. His grown sons, fired by the enthusiasm of opening day, had long since reached their stands on the high ridge. Assured that he was comfortable I worked my way up to the head of the ravine. My wrist watch said four minutes until shooting time when the first shot set the echoes rolling. Some hunter with a fast watch was beating the gun. A flock of jays came screaming up the ridge as I fed the five cartridges into the magazine and set the safety. A scattering of shots from the distant ridges announced that the season was really under way, but the thickets at the edge of the hemlocks below remained empty.

A half hour passed. The distant shooting dwindled into silence. I shivered in spite of my heavy woolens. Then suddenly came the roar of Pappy's .06. A minute of silence, then came his shout. I hurried down to find him standing over a fine seven-point buck. His bullet had broken its neck at the extreme range of thirty feet.

The grin on his face and the twinkle in his eyes belied his years.

"The boys will kid me about my luck," he chuckled as we performed the ritual that is as old as the chase.

Luck—that overworked word that is used to alibi our failures and explain the other fellow's success. In truth it consists of using ingenuity, and making preparation to command the opportunity when it comes your way. A combination of a badly set leg and an aging heart forced Pappy to travel slowly and learn the virtue of patience and the art of being still. When a man kills a buck in each of four successive seasons, although the previous season he held the stand three days before his buck came by, you may be sure that his luck is guided by something more than fate.

Many of the experiences involving the quiet observer of wildlife are comic in extreme. Many wild creatures will approach the still watcher when they will not tolerate the observer moving toward them. A few incidents will serve to illustrate this point.

Standing at a pool in the traprock country, early one morning, I became aware of the sound of stones clinking together. Thinking that my fishing partner was moving toward me, I



leaned against a convenient log and waited. Around the bend below came a huge raccoon. He was turning the stones along the shallows and groping underneath for crayfish. So intent was he at gathering his breakfast that he was unaware of my presence. He worked his way along the pool until a scant two yards separated us. Finding a large specimen he was in the act of transferring it to his mouth when he sensed me looking down at him. He tried to escape up the high bank but his haste and the insecure footing sent him sliding back into the water. His second attempt was more successful and as he gained the security of the woods, he turned, lifted his lip in disgust, then waddled hastily away still holding the crayfish between his teeth.

It Takes Patience

Standing on the cold December ridges, waiting for the official shooting time will try the patience of even the seasoned veteran, especially if there are deer moving out of the thickets below. Minutes seem like hours. The other stand seems more desirable. A gray squirrel rustled in the leaves between my stand and the deer, then headed up hill in my direction. Apparently his destination was the very tree under which I was standing. He came on until he reached the toe of my boot. He sniffed his disapproval, sniffed again then dashed away down the ridge, cursing in squirrel language, as much at his audacity as at the intruder in his domain. It seems that other creatures understand the squirrel's alarm call. In this case when I looked again for the deer, they had melted into the thickets.

Curiosity Can Be Fatal

Many wild creatures have an unsatisfied curiosity that will lead them into difficulty.

Late one afternoon I took my position at the edge of a field where deer came regularly to feed. Sundown brought an adult doe, a pair of fawns barely out of their juvenile spots, and a buck that sported a pair of velvet covered forks. They fed slowly in my direction. The slight breeze was in my favor and choosing a time when all heads were down feeding, I moved slowly towards them. Twenty yards from the woods I stood perfectly still, completely unconcealed. The deer were nearly fifty yards away but working slowly in my direction. At about thirty yards the doe noticed me for the first time. She alerted the others then stood perfectly still for what seemed an unendurably long time. Then she moved a few steps in my direction while the others crowded behind. She would blow, stamp her feet, move forward then decide there was danger and retreat. She would drop her head, feed a few seconds, stretch her neck in my direction and repeat the snort, advance, retreat routine. Almost as if under hypnosis she moved, fascinated by this unfamiliar figure until she was within a very few yards. Suddenly I felt the breeze that had been cooling my face touch my cheek. At that instant the doe reared and pivoted to run, but the others had crowded so closely that she fell over the back of the buck. All four went down in a melee of thrashing legs. The bleating of the fawns added to the confusion. In a second they unscrambled and fled across the field to the safety of the brush.

Few Ever See Him

The rolling sound of a drumming grouse is familiar to the most casual outdoorsman. Few people except the naturalist-woodsman ever see the performance except by accident. With patience, a bit of preparation and the ability to sit still, anyone can have a front seat when the drummer gives his show.

Locating a drumming stand is a bit of specialized woodcraft. The sound has a ventriloquil quality that makes its point of origin somewhat difficult to locate. Strangely the sound seems louder at a distance than when the

listener is a few yards away. By practicing a crude triangulation, listening first at one location then moving some fifty yards at right angles to the first location, the apex of the triangle should give the approximate point of origin. If the grouse does not flush (they frequently sneak away), the stand, usually a moss covered log, is known by the abundant droppings and an occasional feather.

Drumming Begins in February

The drumming season usually begins in late February, reaches its height in early April, then gradually subsides by late May although it continues more or less throughout the year. The author has heard it many times during the autumn nights while hunting raccoons.

Once the log is located, it is a simple matter to construct a blind of burlap or similar material. Make it large enough for a comfortable camp stool and an observation port for photography or for plain looking. Allow a day or two for the grouse to become accustomed to this strange object. The difficult part of the operation is being on location at least an hour or better still two hours before daylight. Warm clothing and a comfortable seat are the prerequisites, as the cold of the pre-dawn has an uncomfortable quality. It is one of the prime thrills of life to hear the first hesitant beats of wings when it is too dark for observation. It is possible to have the blind as close as six feet and still have the stand used regularly. If you arrive late and flush the drummer as you are going into the blind, the grouse may not come back to the log for several days or he may stop using this particular location entirely. Even the click of a camera shutter startles him and the slightest sound or movement will send him sneaking away. The flash of a bulb will send him hurtling away. You may spend many freezing and unproductive hours but the thrill of observing the drumming, the mating battles and the courtship of our state bird cannot be equaled by gunning.

"IN THE MOONLIGHT I saw a mother skunk followed by five young walk calmly across the foot of my bag and disappear in the direction of the garbage pit."



An air mattress and a sleeping bag make a comfortable bed. Perhaps as much through laziness as for any other reason I prefer to sleep without a tent during the mild nights of the summer camping season. Wild creatures love to investigate a prone figure. Often they smell, examine and even step over a sleeper.

An Art to Snap Awake

One moonlight night I was awakened by a movement at the foot of my sleeping bag. One of the arts of the woodsman is that of snapping wide awake even from sound sleep. In the moonlight I saw a mother skunk followed by five young walk calmly across the foot of my bag and disappear in the direction of the garbage pit. Why they chose to walk over me when they had plenty of clear meadow to walk in will always be a mystery.

Eye to Eye

At another time I was awakened when a semi tame deer that frequented the camp site literally breathed in my ear. To look a deer practically in the eye, not knowing whether it might be startled and step on your stomach, is not recommended for those having weak hearts. Fortunately she turned and walked away.

I have been visited by raccoons and one night the beam of my flashlight picked up a yearling bear as it made a hasty exit from the place where we had buried fish scraps left from supper.

Patience Is Necessary

Patience is the necessary virtue in the practice of the art of being still. The man who looks at his watch every five minutes, fidgets as he thinks of a more desirable spot some distance away is lacking in the first quality of success. Some advice culled from long experience will help the beginner. Choose a stand near some natural object that will serve to break the outline of your figure. A bit of thin brush will do nicely. Keep down wind of any spot and use some masking scent to fool the keen scented animals. A perch in a tree a few yards off the ground is excellent.

Photographers Have No Limits

Ground baits, salt and blinds are permitted the hunter that uses a camera instead of a gun. Calls and other devices will sometimes bring in animals but their behavior is generally suspicious and unnatural. A photographer friend had a wild turkey come to his blind and actually peck at the shiny camera lens. Wild creatures have short memories for objects but never become accustomed to quick movements, strange noises, or distasteful odors. Yes, a good bath is a prelude to the practice of the gentle art of being still.

$etter$, Beagle$ and $paniel$

Folks complain now and then of the country going to the dogs. The fact is, says Remington's Research Bureau, the dogs are going to the country. A national economic survey of hunting and fishing just completed shows that a big fat $145 million was spent last year on the purchase and upkeep of hunting dogs. It is the second biggest item on the cost sheet of small game hunters, and ranks ahead of combined costs for food, lodging and transportation. The average per hunter spent last year lists top items as follows: hunting equipment—$19.71, dogs—$11.98, boats and motors—$7.87, auto transportation—$7.17, and food (for the hunter)—$3.59.

PENNSYLVANIA'S *Hunter and Firearm* SAFETY PROGRAM

By DON MILLER



THE Pennsylvania Game Commission officially adopted and organized a program for the promotion of firearm and hunter safety in 1958. Personnel of the National Rifle Association qualified fifty District Game Protectors, at the Ross Leffler School of Conservation, to instruct and certify others as Hunter Safety Instructors. Within a short time all field personnel of the Game Commission and practically all of the Deputy Game Protectors were certified as Hunter Safety Instructors. The growth and development of the program has not been rapid or spectacular, but it has grown into a full-scale project with the cooperation and support of many organizations and associations. The general interest and public acceptance of the program was evidenced by the fact that during the following year 13,593 students were reported trained. This number was almost equal to that previously reported (15,526) in the ten preceding years. The total number of students reported trained in Pennsylvania on December 31, 1961, was 40,192.

The Hunter Safety Training instruction follows the outline that has been developed and recommended by the National Rifle Association. Basically, the course is as follows:

1. Arms and Ammunition — types, uses, care and storage.
2. Proper Gun Handling—at home, in the field, transporting and cleaning.
3. Safe Hunting—zone of fire, target identification, self control and accuracy.
4. Knowledge of Bows and Arrows—types, accessories and care of equipment.
5. Proper Bow Handling — safety rules and storing.

Don Miller is Superintendent of the Game Commission's Ross Leffler School of Conservation at Brockway. Until January 27, Miller was also acting coordinator for the Game Commission's Hunter Safety Program and handled all the processing and paper work for that program. John Behel, of Mechanicsburg, now holds the newly established position as Hunter Safety Coordinator.

6. Hunter's Responsibility – safety, clothing, game identification, game laws, equipment, courtesy and sportsmanship.

Instructors are required to present the course and to adopt the procedures as contained in the NRA Hunter Safety Course Instructor's Guide. It is also required that the course be presented in a minimum of four hours, but instructors are encouraged to extend the course as may be required and facilities permit so that all phases are thoroughly covered.

Volunteer instructors are selected and certified in accordance with standards provided by the National Rifle Association. All Applications for Certification as Hunter Safety Instructor must be approved by the District Game Protector in charge of the area of residence of the applicant. The Commission has designated each District Game Protector as coordinator of the program within his respective district and all Hunter Safety Instructors are requested to carry on the program under his direction. Through a cooperative agreement with the National Rifle Association, all Hunter Safety Instructors are certified by the Commission. Copies of the registration of certified instructors are made available to the NRA headquarters, the Commission's Field Division Headquarters and the District Game Protector.

Each newly certified instructor is furnished with the official NRA Hunter Safety Instructor I.D. card, and upon the reverse side is the certification of the Pennsylvania Game Commission. He is also given the NRA Hunter Safety Instructor's Guide, a Student's Handbook and the Bow Hunting Supplement. Student Registration Cards and Certificate of Competency are available through District Game Protectors. The instructors are required to complete the registration and to issue the Certificate of Competency to students successfully completing the course. The completed registration and unused cards must be returned to the District Game Protector, who is held accountable for the cards and certificates.

There is no charge or fee for the

GAME PROTECTORS received the initial training when the Game Commission launched its Hunter Safety Program. Here Stanley Mate, Director of Training for the National Rifle Association, is shown instructing Pennsylvania Game Protectors in the art of teaching Hunter Safety Courses.





"FIRE" is the command as these Pennsylvania Game Protectors qualify as Hunter Safety Course Instructors in 1958. Courses were conducted for fifty Game Protectors at the Ross Leffler School of Conservation near Brockway.

instruction. This service is provided by sportsmen and other civic-minded individuals or organizations on a strictly voluntary basis. However, students or trainees are encouraged to purchase the NRA Hunter Safety Handbook and the Bow Hunting Supplement, available at ten cents each, and to purchase ammunition if the course includes range firing. The purchase of other materials such as Student Shoulder Patches, etc., is optional on the part of the student. In many cases the sportsmen's club or other organization sponsoring the training have provided the instructional and training material. Motion picture films for use as supplementary instructional material may be obtained through the District Game Protector from the film libraries maintained at Field Division Headquarters.

The importance and the success of the Hunter Safety Training program in Pennsylvania may be indicated by the following statistics: The summation of the 1958 hunting accidents revealed that in 12.2 per cent of the accidents the injury was inflicted by persons 12 to 16 years of age, in 1959 the rate was reduced to 10.9 per cent. In 1960, although a slight rise in the total number of accidents was recorded, the percentage in which the injury was caused by those 12 to 16 years of age was further reduced to 7.2 per cent.

Preparation Precedes Participation

Pennsylvania is an outdoor, sports-loving state. A firearm may be found in almost every home, a privilege that is denied citizens of many other countries. This fact alone demands that each person, especially youngsters, must have a basic understanding of firearms for their own safety and for the safety of those around them. Hunting and shooting are two of Pennsylvania's most popular participant sports, and a recreation enjoyed by more than one million residents. However, as in



HUNTER SAFETY COURSE is outlined here by Frank Trezise, Field Representative, Sporting Arms and Ammunition Manufacturers Institute (left), and Stanley Mate, Director of Training Activities, National Rifle Association (right), to M. J. Golden, Executive Director, Pennsylvania Game Commission, prior to giving the courses to all the District Game Protectors in 1958.

any sport, preparation should precede participation.

The Hunter Safety Training has proven to be a popular and successful civic or community activity in many cases. The training may be presented in a variety of places, dependent on the facilities available to the instructors; it may be a school, armory, club rooms or in private homes. Many schools have arranged for the training as an extracurricular activity, many sportsmen's clubs have buildings and grounds that provide ideal training areas, National Guard and Reserve Units of the Armed Forces have offered their facilities and personnel in providing Hunter Safety Training as a community project. Some of the most successful programs have been sponsored and conducted by local Police Departments. The most active training period is in the winter or spring; however, training programs may be conducted at any time of the year.

Persons interested in organizing a class or group to receive Hunter Safety Training or those who wish to participate as instructors are requested to contact their local District Game Protector.



Photo by Jim Varner

PROGRAM IN ACTION is demonstrated here by qualified instructors in Lackawanna County. Instructors Mike Rinaldi (nearest to camera) and Bud Ryan (with hand to cap) direct student fire at the Leach Rifle Range. This firing was made possible through the cooperation of the 109th Infantry in that area.



Photo by Grant Heilman

RING-NECKED PHEASANT NESTS like this can be saved from mowing destruction by the preservation of safe nesting cover strips. Sportsmen's clubs can help "Ma Pheasant" by purchasing these safe nesting strips from the farmer.

Study of Pheasant Nesting Reveals It Pays to Purchase . . .

Pheasant Nesting Cover Strips

By E. G. Musser
P-R Coordinator

ALL studies of the nesting habits of the ring-necked pheasant in Pennsylvania indicate that nest destruction by mowing topped all other forms of nesting loss. The last of these studies was made by Howard M. Wight and reported in the March, 1950, issue of GAME NEWS in an article entitled, "Nesting Loss—The Pheasant Bottleneck." He found that 61 per cent of the nests studied were destroyed by mowing or haying operations. Wight, at the time, was a student in the Pennsylvania Cooperative



PGC Photo by E. G. Musser

SAFE NESTING STRIPS like this one of alfalfa and clover in Lancaster County have proven successful in increasing the natural propagation of ring-necked pheasants in southeastern Pennsylvania. This strip, 50 feet wide and 1,000 feet long, produced seven successful pheasant nests with an average of 12 chicks per nest. Both farmers and sportsmen can help in this program by leaving these safe nesting strips during mowing operations.

Wildlife Research Unit at Penn State.

The author and Wight worked very closely during Wight's ring-necked pheasant studies on 2,540 acres of farm land in Lower Macungie Township, Lehigh County. These studies revealed that 71.7 per cent of the nests observed were located within a 100-foot hay strip around or at the borders of fields. Hence, recognizing that pheasants prefer hay strips for nesting, the creating or saving of these strips during mowing operations appeared to be a practical approach to increase nesting success.

Since no previous attempt had been made to study the soundness of Wight's findings, a preliminary survey was later carried out by the Pennsylvania Game Commission in some of the best pheasant range in Lancaster, Berks, Lehigh and Northampton Counties.

Farm-game cooperators were interviewed to determine their attitude regarding the purchase of nesting cover, the price, time of mowing, and the length of time the cover strips should be left uncut. The following information was obtained:

Alfalfa

At least two cuttings should be purchased to insure safe nesting cover until the middle of July. A price of $18 per acre was set for the first cutting. The second cutting, which is better hay, was priced at $28 per acre, making a total of $46 per acre for two alfalfa cuttings to be paid by the Game Commission. The cooperator could cut the alfalfa after the nesting period for poorer quality hay.

Timothy and Clover

Since this hay is generally cut once, a fair price was set at $15 to $40 per acre, depending on the quality of the hay. The cooperator could still use the hay for bedding and mulching purposes if he desired to cut it after the middle of July.

Sympathetic Farmers

Cooperators interviewed were very sympathetic toward the pheasants' fate by mowing during the nesting season and believed that a plan to create or purchase safe nesting strips would be compatible with modern farming practices.

With the above preliminary information at hand, eighteen nesting cover strips, mostly alfalfa and clover were purchased by the Pennsylvania Game Commission in some of the best pheasant range of southeastern Pennsylvania. The strips were purchased during the last of May and early June of 1950 and were checked by this writer for pheasant nests from early June through August. The strips were checked for occurrence of nests, number of eggs per nest, fate of the nests and other wildlife using the strips.

Here are the results of that study: 54 nests were found and 50 hatched. A total of 32 eggs made up the three unhatched nests and the fourth was destroyed by predators. The 50 successfully hatched nests had a total of 633 eggs for an average of 12 per nest. Of the 633 eggs in the sucessful nests, 583 hatched. Each strip averaged three nests, but one strip had eight. The strips averaged about 100 feet wide and 900 feet long (about two acres of ground). The Game Commission purchased over 37 acres for this project costing $1,024.28, averaging $26.78 per acre.

COTTONTAILS benefit too from the preservation of safe nesting strips. The purchase of these nesting strips in southeastern Pennsylvania has shown an increase in other species of wildlife in these areas in addition to the benefits seen in the pheasant populations. *Photo by Leonard Lee Rue*



An analysis of the findings resulted in the following conclusions:

1. Purchasing pheasant nesting cover is justified in the best pheasant range where high nesting losses occur due to mowing.
2. Most nests were found in the 50-foot to 75-foot area of the strips next to field boundaries or edges.
3. The density of nesting was highest in alfalfa strips.
4. Strips purchased for nesting cover in southeastern Pennsylvania should not be mowed until after the middle of July or later.
5. Weather conditions affect hay growth and mowing operations and in some years due to unusual conditions it would not be practical to purchase nesting cover. However, in most years the purchase of nesting cover should be considered desirable in the areas of intense agriculture, which is some of the best pheasant range.

Commission Initiates Program

As a result of this Game Commission survey of 1950, the Commission has purchased nesting cover strips each year from farmers in most of the counties of southeastern Pennsylvania. It is felt that this program has proved highly successful in the natural propagation of ring-necked pheasants in that part of Pennsylvania.

The purchase of nesting cover is a program which could be undertaken by many sportsmen's clubs. While the release of pheasants may be more spectacular, you just can't beat birds produced in the wild! (Rabbits, too, benefit from delayed mowing.) So here's an opportunity for sportsmen in the best pheasant areas to help Ma Ringneck bring off a brood.


N.A. ROSATO

Her Dog Dish Marks a Mound Of Fresh Earth and Tears . . .

Epitaph to Lojo

By Keith C. Schuyler

IT HAD to happen, sooner or later. Lojo was getting old. And, her health wasn't good.

But, it was a shock to find her lying beside the road where she had been thrown by a passing car. Force of the blow had split her heavy leather collar, and it lay several feet from her. She wasn't mangled. There was only a little blood. But, I could feel that the bones in her head were crushed when the boy and I lifted her on my old raincoat to bring her the several hundred yards to the house.

It is unlikely that the motorist was to blame. Lojo had become hard of hearing during the past year, and her eyesight was questionable. She probably had something all-consuming on her mind and her nose when she started across the blacktop. Chances are she never heard or saw the car that killed her.

Maybe it was best that way. Her days were numbered, and her end might have come much more sadly and slowly. Actually, she had no more than a dog's right to be away from the house in the first place. She had slipped away sometime during the night after sharing some ice cream with us.

Despite all this, it was quite a shock to the entire family. You see, Lojo was 12 years old this month.

What can a dog do to you in 12 years?

This one was a replacement for some of the attention our first-born was certain to lose when No. 2 came along. Louise and Joe knew we wanted a dog, and we named the wobbly puppy they brought after them—Lojo.

And, she did a good job of making up for an apparent loss of affection that the four-year-old who received her might have felt as the new baby wrecked the routine of the household. The four-year-old is now 16; and the new baby grew up with the puppy. Twelve years is a big chunk of any life, so each of us still has trouble swallowing a lump that only time will dissolve. There have been many tears.

As dogs go, Lojo wasn't anything special. Reported to have descended from cocker spaniel and fox terrier, she actually looked more like a miniature English setter. As a result, her nose was rather badly mixed up.

She could rout pheasants—usually out of gun range far down the field. And, she would chase rabbits as far as she could see them. When I saw one sitting, I'd have to hold her collar with one hand and the gun in the



other, kick the rabbit loose and wait until it was well started on its way before releasing her to try a shot. Lost a lot of rabbits that way.

There were times when I felt like shooting her instead of the game. But, she was good company.

If her nose was mixed up, her brain certainly was not. A good dog trainer could have made a real performer out of her. As it was, the few hours I spent years ago on her were sufficient that she placed first in each of the three times she was entered in the trick-dog division of the local dog shows. Her loss of hearing was no problem since she would go through her routine on barely perceptible hand signals.

A Fair Watch Dog

Lojo was just mouthy enough to make a fair watch dog. But, the only person she ever bit was one of our boys who would fling himself on her when she was asleep. She was immediately sorry on the two occasions when this happened, and nobody could really blame her.

The only real enemy she had was one of the Berwick Creamery horses. Somehow she got mixed up with one of the horse's feet when she was a puppy, and her one leg was badly gashed. Never forgot it. Even when milk service changed to truck, Lojo continued to threaten every driver who delivered. Nothing ever came of it, but it made the delivery men nervous. It was one bad habit of which we could not break her.

Other Bad Habits

Oh, she had other bad dog habits, but we went along with these as gracefully as possible. She shared my contempt for the muskrats that riddle our dam breast, and she would drag some of the mud and clay as far as the boys' bedroom where she slept most of the time. And, one night she kept us all awake until I went down and dispatched the opossum she had cornered in the cornfield. Sometimes she would smell of skunk, or worse.

On the outside, there were those times when it seemed that Lojo violated every reason for her existence as a part of the household. But, inside of her there was never the slightest deviation from the straight line she held to our hearts.

Shared Our Emotions

She shared every emotion that rules our existence. She was happy with us, sad with us and she was troubled when we were stumbling over the rough spots.

So, now there is an empty place at our house.

We still drive carefully coming in the driveway so that she can come out to meet us. But she doesn't. At the time she used to be fed it seems that there is a chore to be done that has gone unattended. But, it is no longer necessary. It won't be necessary to hold the car door for her this fall so that she can help take the kids to school. The birds and the frogs and the chipmunks may miss the game of allowing her to get just so close before taking off.

No Replacement

Sure, we'll get another dog. We even have another dog. But, it isn't likely that any other dog will quite fill the place left by Lojo. The growing-up times of building a marriage and raising babies are behind us. No new dog or the two-year-old setter kept at the barn can have a part in that.

Lojo's place now is a quiet spot under the white pines where her dog dish marks a mound of fresh earth and tears. Where she came from and where she has gone is one of those mysteries, but we are told that God marks the falling of each sparrow.

Whatever the answer, one thing is sure. Underneath that fresh ground is a lot of love—coming and going.



Photo by Leonard Lee Rue

PENNSYLVANIA WILD TURKEYS like these game farm birds formed the foundation stock for the wild turkey populations in Germany. Ten farm raised turkeys and 400 eggs were sent to Germany in 1957 and 1958.

The Germans Came to Pennsylvania To Get Their Foundation Stock

Pennsylvania Wild Turkeys in Germany

By Harry H. Kauffman

Retired Head of Poultry Extension
Pennsylvania State University

IT WAS amusing to read the accusations in the February issue of GAME NEWS that wild turkeys were trapped in Pennsylvania and shipped to Germany. There have been no trapped wild turkeys sent outside the state but there were 10 farm-raised turkeys and 400 turkey farm eggs sent to Germany in 1957 and 1958.

The great problems surrounding the embargo rules and regulations set up against these importations make it almost impossible to ship any quantity of live birds abroad. Most of the regulations fall into the Veterinary Health Regulations, but some of these Health Regulations are primarily designed as trade barriers.

There were wild turkeys in Germany in 1951. I saw them in the Hamburg Zoo and they were typical Pennsylvania wild turkey specimens. During a period of five months I traveled through every Laender of the West German Republic but I did not see or hear of any other wild turkeys



Photo by Pa. Agricultural Extension Service

THE EGG PULLMAN, designed by Rolf Bolts, Westersheps, Germany, transported the turkey eggs from Pennsylvania to help establish flocks in Germany. Note two of the eight springs in the trunk to take the shock while eggs were in transit.

at that time.

During my stay I visited Dr. Effertz, a poultry breeder near Fliesteden in the North-Rheinland area. In about 1956 Dr. Effertz was appointed Minister of Agriculture for the North-Rheinland State. Hunting and hunting privileges are closely anchored to the soil in Europe. Dr. Effertz being a hunter and conservationist was interested in developing the wildlife in that area. He established a wildlife research station about ten miles from Bonn. Professor Henrich Havermann, Head of the Animal Husbandry Institute and also Dean of the Agricultural College at the University of Bonn, is also a hunter of note and worked with Dr. Effertz on this project.

They contacted me about the possibilities of wild turkeys thriving in that area and sources of wild turkey stock. That part of Germany has fertile soil and can grow good crops of different species of grain. There are numerous areas of small woodlands, and the Seven Mountains of the Rhine are covered with both conifer and deciduous trees of good timber qualities. The winters in the area of the Seven Mountains in Germany are considerably milder than the winters in the Seven Mountains of Pennsylvania. With these conditions there are good possibilities that wild turkeys can thrive in that area.

These forest lands west of the Rhine are more or less continuous, starting with the Seven Mountains near Bonn. They extend south to join the Hunsrick Ridges west of Koblenz. Then the Black Forests are farther south, and they practically join up with the foothills of the Alps in Switzerland. There are potentially 250 miles of continuous wild turkey range west of the Rhine.

Pennsylvania Game Commission Furnishes Foundation Stock

The request for sources of wild turkey breeding stock was turned over to the Pennsylvania Game Commission. On October 4, 1957, the Game Commission shipped three toms and seven hens from our turkey farm to Dr. Effertz in Germany. On May 1, 1958, the Commission sent 200 eggs to Dusseldorf, and another shipment of 200 eggs to Munich.

Squire Bolts Imported Privately Owned Eggs Into Niedersachsen

The Bolts family has been operating a duck farm for many years near Oldenburg in Niedersachsen, Germany. In 1961 they raised 1,100,000 ducks. In the spring of 1953 Rolf Bolts visited Pennsylvania to see our turkey industry. While driving over some forest roads of Perry County, he asked if there were wild turkeys in that area. The reply was, there are possibly some here but there is only a slight possibility of seeing them. We did not drive a mile until a nice hen crossed the road about 60 feet ahead of the car. Bolts said, "Some day I hope to import wild turkeys into Germany and



PGC Photo by D. L. Batcheler

"SOMEDAY," said Squire Bolts, "I hope to import wild turkeys into Germany and I hope to see the day when they will be roaming our forests."

I hope to see the day when they will be roaming in our forests."

That day Bolts got 200 White Holland turkey eggs from Warren Johnson in Chester County. Last year he raised 40,000 turkeys. Numerous imports of turkey hatching eggs were made by Mr. Bolts in the past ten years. The egg breakage problem in transit was an annoying factor.

Bolts is a graduate in mechanical engineering and soon solved the egg breakage problem. He designed an aluminum trunk about 4 feet long, 3 feet wide and 30 inches high. Inside a cradle that could hold a standard egg case was suspended on springs. Two hundred turkey eggs can be packed in a standard 30-dozen egg case. After that several shipments were made and not one egg was broken in transit. In 1957 Bolts requested 100 eggs of a certain strain of White Hollands and 100 wild turkey eggs. The wild turkey eggs were secured from Allegheny Wild Turkey Farm, Julian, Pa. They got a 65 per cent hatch of the eggs laid in Centre County and hatched in Germany.

In 1958 Bolts propagated over 600 turkeys from the nucleus of the eggs he imported in 1957. Most of these turkeys were dressed as market turkeys, while some of the prize specimens were released the following spring. Some were released in his 17-acre parklike forest surrounding his ranch type farm home. Others were released in a hunting preserve about 20 miles from his farm. Turkeys spread out from both "plantings" and some were seen 10 miles or more from where they were released.

Foxes have been a major predator problem for both Squire Bolts and Dr. Effertz. The foxes do most of their damage by killing the hens and eating the eggs while the brooding hens are setting. In spite of the fox depredations the released birds reared quite a few young birds.

The turkeys reared by their released parents seem to be much better adept to escape the foxes than the birds artificially reared. The old turkeys seem to be able to teach things about survival to their young that man cannot teach to the farm turkeys.

Bolts has at least partially attained his ambition when he said in Perry County, "Some day I want to import wild turkeys into Germany and hope to see the day when wild turkeys will roam in our forests."

The Only Animal in These Parts
That Rattles When He Walks . . .

Porky: The Dry-land Beaver

By Les Wood

ERETHIZONTIDAE, his family name, is as formidable as his defenses. To the uninitiated it is a meaningless term but once you get to know the animal you will never forget old porcupine, the dry-land beaver. My own introduction to him was somewhat dramatic to say the least.

My two sisters and I were playing in the front yard while mother was on an errand to the neighbor's. Suddenly there was this awesome beast coming right down the middle of the road. We fled to the house in terror and shut the door. Peering cautiously out the window, my older sister (six years old) gasped, "Oh, the gate is open. Maybe he'll come right in here!" And come in he did — ambling purposefully up the path and on to the porch. We were sure if he saw us he would somehow come in and eat us all up so we hid behind the furniture ready to retreat up the stairs if necessary. We could hear him thumping and grunting around on the porch for what seemed an age but at last when all was quiet we ventured a peek out the window and saw him go on down the road, across the bridge and into the barn.

When mother returned and heard the terrible tale she calmly reached for the gun in the corner behind the kitchen door and started boldly for the barn, the three of us tagging along fearful of getting too close but anxious to see if he was still there.

At the open barn door she raised the rifle, drew a careful bead and fired. The old 38-55 Marlin spoke with a lot of authority and we crowded around to see what was going on. In open-mouthed horror we watched the beast slowly and deliberately climb right up the side of the barn clear to the roof, let go his hold and come tumbling down end-over-end and hit the barn floor with a heavy thud, dead as a doornail.

Just a Hedgehog

"What is it, ma? Ma, is it a bear?" we asked excitedly. "No, no. It's only a hedgehog," she assured us. But bear or hedgehog we knew our mother was the bravest woman in the world.

Since that memorable day I have killed a milli--- I mean quite a number of porcupines and most of them have pulled some such a surprise before they cashed in. In fact the only porky I recall killing outright was one I hit on the end of the nose with a stick of stovewood thrown by the light of a couple of kitchen matches.

Legend Has It

If you kill a porcupine around your hunting camp two more will come to his funeral. Kill those two and three or four more will show up. Where this might end has never been definitely settled but experience has taught me it's better to surrender early and save your ammunition. A friend of mine was determined to kill them all off but the war went badly so he porky-proofed his camp with sheet iron around the bottom and screened the porches thinking that would stop the stupid rodents. They gnawed through the screen door so he used hardware cloth. That stopped the gnawing but one night he heard the screen door slamming and got up to investigate. He was greeted by a porky

that had somehow opened the screen door. The door was held shut by a spring but he had learned how to open it and hold it while he stepped in. Stupid? Not in my book.

Supposed to Be Clumsy

Then, too, along with his stupidity, a porcupine is supposed to be clumsy, just about the clumsiest thing that roams the woods. Well, just pick out your favorite weasel or wildcat and have him try this trick; and in sub-zero weather at that! I was climbing a steep mountain trail and met a porky coming down. Neither of us saw the other until we were just about face to face. Instead of turning his back and raising his quills as one would expect he became panicky and rushed for the nearest tree, a red oak sapling about the size of a stove-pipe. Twenty feet up the hard-frozen bark was so smooth and slippery he lost his grip and fell. A small tree grew nearby with a branch extending out toward the oak. As the porky came crashing down he grabbed the end of this branch, a match-sized twig, with his right hand (O.K. then, paw, if you insist) and there he swung in a four-foot arc like a big pendulum while figuring out what to do next. As he swung back toward the oak he reached out a hind foot and kicked the trunk enough to increase his swing. The next time he kicked a little harder and on the third swing was able to let go of the branch, grab the oak and scramble up to safety. Clumsy? Just like a monkey.

And He's Noisy

Old Erethizon is a noisy cuss. He gnaws boards to get the salt they might contain but these days when there's a salt block at every camp he gnaws boards anyway. Why? Just because he likes the noise. He'll test out various places on a dry board until he finds the particular spot that vibrates loudest and then settle down happily to make the night reverberate with his rrrf-rrrf-rrrf-rrrf until dawn begins to break.

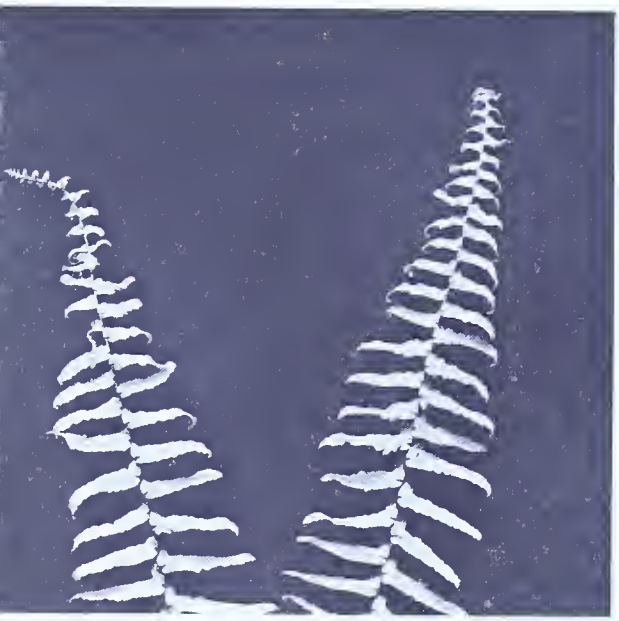


OLD ERETHIZON is a noisy cuss. He gnaws boards to get the salt they might contain and, better yet, to see how much noise he can make. All night long he makes that rrrf-rrrf-rrrf-rrrf until dawn begins to break.

He sometimes gnaws the tires and rubber hose connections of a truck or tractor parked in his domain. Whether he survives a diet of rubber is doubtful but he is a hardy beast and just might survive to gnaw again another day.

The Dry-land Beaver

He might be called a dry-land beaver. He eats the same food, has the same slow pigeon-toed gait and the same habit of flailing away with his tail when angry. And what a tail! Short but powerful and armed with easily-detachable barbs he can drive deeply into any adversary with the fortitude to attack him. He is the only animal in these parts that rattles when he walks. How those ivory-hard quills could ever have developed from hairs is a mystery. It has something to do with survival of the fittest—but we won't go into that, it's too prickly a subject. The fact remains he does have those quills however he got them and he remains one of nature's most interesting productions.



Despite its popular name, Christmas fern (Polystichum acrostichoides) is seldom gathered for decorative use on holidays. The species is an evergreen, however, which means that it would be one of few green plants to be seen during the winter. Christmas fern is one of our most common species and readily observed on shaded hillsides by almost any outdoorsman. Since this fern is rather indifferent to soil it can also be discovered in swamps and open thickets.

Comm

By L

Phot

DID you know that long before
tirely covered with ferns? I
millions of years ago long before

Obviously the ferns of the ancie
which we know today. However, f

Aside from all this, ferns today
artistic design but like other plan
frequently grow in mass profusio

It may be of interest to know
attractive species of ferns illustr
approximately one acre in size, wh
neighbor of mine—Francis Schade

Years ago Mr. Schadel reforest
Mahantongo Township, Schuylkill
trees now provide the necessary
Sportsmen and naturalists ali
traveled over much of Pennsylva
to discover a hillside of similar siz
ful ferns thrive in greater profus

Not only is this little hillside o
natural beauty, the profusion of f
cover for small game, particularl



Maiden-hair fern (Adiantum pedatum), as its popular name might suggest, is among the more fragile species of fern found in Pennsylvania. The fronds are rather light-green in color while the stems of maiden-hair are dark-red to purplish. The species makes itself additionally attractive by growing individually rather than in clump-form.

Ferns

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enn's time Pennsylvania was en-
ns dominated the whole world
ees, birds, or animals appeared.
:e considerably larger than those
hanged only in size and number.
eciated not only because of their
t also respect the fact that they
help to prevent erosion.
nd and photographed all of the
along the north side of a hill,
ed by a farm-game operator and

icular hillside, located in Upper
ith various species of pine. These
erns.
joy knowing that after having
beyond our borders, I have yet
ch an amazing variety of beauti-

ntongo Valley's isolated spots of
ovide some of the most desirable
rabbits and woodchucks.

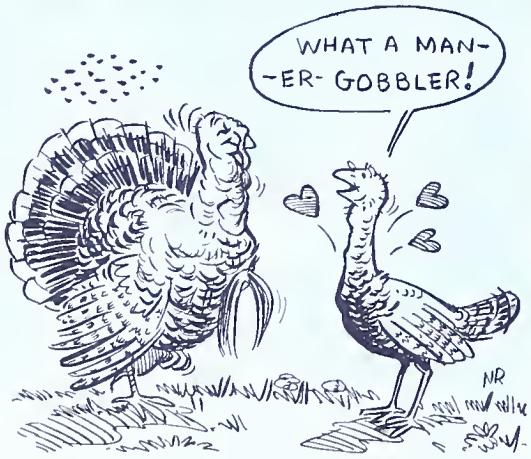


True to its popular name, rock-cap fern or polypody (Polypodium virginianum) often forms large clumps on top of rocks. Of considerable interest is the fact that the rock-cap fern is an evergreen. The underside of rock-cap fern is gray or tan in color and covered with markings that resemble beads.



The bead-fern or sensitive fern (Onoclea sensibilis) is one of few species which definitely prefers to grow in sunlight, usually in moist lowlands as well as along sandy stream banks. The seed stalks of bead fern appear in late summer and in some respects are almost as colorful as the mature plants.

FIELD NOTES



Double-Bearded

PERRY COUNTY—The oddities of nature never cease to exist. While working the Harrisburg Sportsman Show, Chester Moll, of Manheim, stopped by the booth and related this story to me. He was hunting in Burnside Township in Centre County when he killed a 15-pound gobbler with ¾-inch spurs. The gobbler had not only one but two 10-inch beards growing from the same spot.—District Game Protector Jacob Sitlinger, Newport.

Canine Deer Slayers

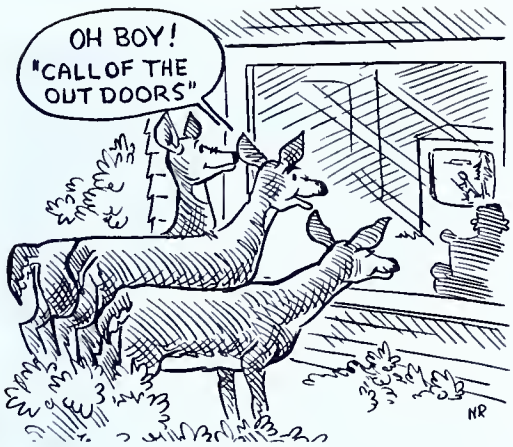
HUNTINGDON COUNTY — Dogs within the district are again taking their toll of deer even though we are not having a severe winter. Six deer are known to have been killed by dogs and a number have been lost to falls from cliffs and ice in the Raystown Dam area which the residents maintain were being chased by dogs. Complaints are many and with most cases the canines are not "wild" dogs but dogs which their owners neglect to keep tied or under control.—District Game Protector Richard Furry, Huntingdon.

Youngsters on the Right Track

CENTRE COUNTY — The Boy Scout Troop located at Pine Grove Mills is one of the most conservation-minded youth groups I have ever encountered. The troop carries out an extensive winter feeding program, handles the rabbit trapping in the area and on meeting nights goes over and discusses the GAME NEWS cover to cover. On Civic Day in Centre County two of the boys, and rightfully so, were chosen to assist the local Game Protectors to perform their duties during the day. Mike Wills, the Scout Master, has done a fine job in guiding the boys in the right direction. —District Game Protector Joseph L. Wiker, Pine Grove Mills.

Instant Mink

LACKAWANNA COUNTY — This story was related to me by young Ben Prescobb, La Plume, Pa. He and his brother were scouting along a tributary to States Creek near La Plume. The boys noticed a large mink going up along this small brook. Ben's older brother decided to make a set for it in the tributary stream. Having selected a site for his trap in the brook, the boys looked up to see the mink returning downstream. While Ben's older brother stood transfixed in the middle of the brook, the mink entered the water and started to swim toward him. Ben's brother had already set the trap and as the mink swam within range he swung the trap and extended it toward the mink. Bingo! The boys were elated to see the mink caught in the trap. Needless to say the boys figured there isn't too much to trapping these mink.—District Game Protector John L. Altmiller, Clarks Summit.



TV Fans

BERKS COUNTY—While on duty at the Commission's exhibit at the State Farm Show in January, Gordon Howard, R. D. 1, Cogan Station, Pa., related the following incident: One evening, just prior to Christmas, Mr. Howard drove to the home of his mother-in-law. As he drove into the highway, he observed several deer on the lawn and noted that they seemed engrossed in a television program which they were apparently watching through a large picture window. Mr. Howard related that the deer paid no attention to him until he got out of the automobile and walked around toward the deer. At this time, they evidently decided that the program was not interesting enough to hold their attention with a human so near and they departed. Fortunately, when departing, they went away from the house instead of through the picture window as deer have been known to do when excited. — Conservation Information Assistant Paul H. Glenny, Leesport.

Birds-a-Plenty

CUMBERLAND COUNTY—I have a very good holdover of quail in one section of my district. Have a record of six coveys of approximately 12 birds per covey. Have a very good holdover of pheasant hens also. All in excellent condition and should produce top quality broods this summer—District Game Protector George Bretz, Shippensburg.

Speed Trap for Wildlife

BUTLER COUNTY—I have noticed a definite decrease in the road-killed deer in one of the trouble spots in Butler County. There is one section of Route 422, which is a three-lane highway that has been responsible for a large portion of the highway kills in this district. It is a very straight and fast section of road and through some very good deer country. Since the State Police have been enforcing speed laws with radar this area has decreased in the number of road-killed deer. It may be coincidental but I feel the fact that drivers are watching the sides of the highway for those cars with reverse spotlights, plus the fact that the speed has been cut down is not only saving human lives but the lives of our Pennsylvania wildlife.—District Game Protector Jay G. Swigart, Butler.

Easy Prey

BRADFORD COUNTY — While filling a turkey feeder on State Game Lands No. 12, Bradford County, I was surprised to see what at first glance I thought was an albino squirrel pop out and back into the feeder. Then as he made his exit to the ground I saw that it wasn't a squirrel but a large weasel wearing his winter coat of white. As I continued to fill the feeder I thought to myself—what a paradise the predacious weasel had here with the feeder attracting birds, rodents, squirrels, etc., to the area, making them easy victims of his prey. Indirectly, one might call this weasel "corn fed!"—District Game Protector Richard W. Donahoe, Troy.



The Good Old Days

BRADFORD COUNTY—It is interesting to note the weights of some Pennsylvania deer that were killed during the latter part of the 19th century and the early part of the 20th century, and compare these with the deer we are harvesting now. This information was obtained from an old book, printed about 1914, which was loaned to me by my Uncle Miles Stauffer, R. D. 3, Bellefonte, Centre County, Pa., who recovered this book from an old house in that area. Nelson Tyrrell, of Bradford County, who died in 1911 killed a stag in his home county which weighed 350 pounds as it fell. E. W. Woodcock, of Potter County, shot a stag which, dressed, weighed 220 pounds. A stag weighing 230 pounds, dressed, was killed in Poe Valley in 1914. This deer had 9 points on each antler. Marcus Killam, of Pike County, killed a stag which, dressed, tipped the scales at 306 pounds. John P. Swope, of Huntingdon County, killed a big deer which weighed 225 pounds without the head, horns, hide or entrails. Aaron Hall, of Centre County, killed a large deer weighing 225 pounds. S. J. Pealer killed another large deer near Shickshinny, Luzerne County, which dressed, weighed 260 pounds.—District Game Protector Donald E. Watson, Towanda.



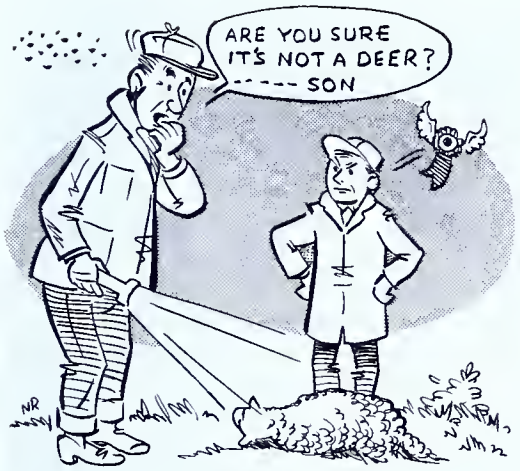
A Mother's Care

BUTLER COUNTY—The following story was related to me by W. Roy Pizer, Worth Township, Butler County, Pa. "While looking out my picture window one morning in January, I noticed five large deer coming across some open fields traveling very fast. They came through to the highway some six hundred feet from my window, just as a car came along. Naturally, they all stopped. I noticed the rear doe raised her head high and looked back. After the car had passed, the first four deer leaped the fence and the road and went into a tract of red brush. However, the fifth deer wheeled and went back the way she had come.

"In scanning the fields ahead of her with my field glasses, I noticed a small fawn, probably weighing about forty pounds, about three fields back. The doe ran back to the fawn, very slowly got the fawn to follow her. I then noticed the fawn was crippled, carrying one front foot. She brought the fawn through to the first fence. Using the fence for camouflage she rested it for approximately ten minutes. Then she brought it through the next field to the highway. She leaped the fence and the road, then waited patiently for the fawn as it moved up and down the fence. It finally crawled through the fence and joined its mother. She took it into the red brush the way the other four deer had gone. It was amazing to see how this wild creature cared for her young."—Land Manager Woodrow E. Portzline, Slippery Rock.

Good Winter

TIOGA COUNTY—We have had a good winter so far and all game is in good condition. – District Game Protector William D. Denton, Elkland.



Sheepish Mistake

POTTER COUNTY—Several years ago a local man was having considerable deer damage to his crops. One night by the use of rifle and light the man, now a good friend of mine and the Game Commission, attempted to eliminate some of his trouble. Shining the light across a nearby buckwheat field he spotted two pairs of eyes. The man took careful aim and fired, dropping one of the animals in its tracks. He returned home; told his son, "One shot and I got the big one." Deciding the son should see the feat his father had accomplished, they returned to the field where the shot had been fired. Anxiously running to the spot where the deer supposedly lay, they were amazed to find not a deer, but the boy's 4-H Club project, a prize-winning sheep. To this day, from local residents who know of the incident, the father quite often hears the familiar words "Baa Baa, I got the big one." — District Game Protector H. Richard Curfman, Coudersport.

That's Gratitude

MONTGOMERY COUNTY — The following story was recently told to me by a sportsman at a recent banquet. Last spring a farmer friend of the sportsman called and stated that he had just killed a hen pheasant while mowing his fields. The farmer said that he had found 6 pheasant eggs near the dead bird and wanted to know whom he should give them to. The sportsman informed the farmer that he would be glad to take the eggs off his hands. The interested sportsman took the eggs to a licensed pheasant propagator and had them hatched. The six pheasants, four hens and two cocks, were well taken care of until they were of age to release. It seems that five of the birds have left the area and taken to new food and cover, but one little devil, a cock bird, is creating havoc for all concerned. It seems that whenever the sportsman, his wife or children enter the back yard of his property the cock bird attacks them. It seems that even the bird dog isn't safe. The last words from the sportsman that night were: "Is this gratitude?"—District Game Protector E. F. Sherlinski, North Wales.

Motherless Cubs

NORTHEAST DIVISION — It is rather pathetic to see the number of deer killed by dogs during the winter season. During the past week, we learned of a new practice by dogs which is causing some concern. Several dogs continued to harass a she bear in hibernation until she fled the nest; in the nest were two cubs which she abandoned. — Division Supervisor Roy W. Trexler, Dallas.

Hunter Safety in Lawrence County

LAWRENCE COUNTY — The Hunter Safety Program in Lawrence County is shaping up. Letters and questionnaires to the one hundred instructors in the county, as well as county-wide meetings have increased interest. The county-wide program is becoming well coordinated by using officers in the Instructors' Club to push as well as supervise all activities.— District Game Protector Calvin A. Hooper, Jr., New Castle.



Warm Pork

INDIANA COUNTY – The following incident was related to me by Deputy Game Protector Herbert Gernandt: Last August three bobwhite quail decided to make the barnyard of James Winebark, of Rochester Mills, their home. As the fall came the quail could be observed in the pig lot and when winter approached the quail could even be seen sitting on the backs of the pigs. When it became even colder the quail got down between the pigs, as they lay, apparently to keep warm. Many incidents about quail and animals are known, but this one certainly proves that not even a pig is a game hog.—District Game Protector John A. Badger, Indiana.

Chance in a Million

NORTHAMPTON COUNTY—The following was related to me by Captain Peter R. Waselefsky of the State Police. In 1944 Captain Waselefsky purchased a resident hunter's license No. A-49906 in Delaware County. At a different date in 1945, the Captain purchased his 1945 resident hunter's license and the license number was also A-49906. Captain Waselefsky has kept both licenses these past years and wonders what the chances are that this can happen again.—District Game Protector R. W. Anderson, Easton.

A Crowd Stopper

SOMERSET COUNTY—During a Sunday patrol in January in the vicinity of Stoystown in Somerset County, I observed a young boy aiming a toy gun into the brush along the edge of a township road. Just before passing this youth he darted into the brush and held up a rabbit, showing it to his companion. After passing I checked in my rear-view mirror. This youth would throw the rabbit back into the brush and reenact the same scene for the next passing vehicle. I drove back and talked to the youth of thirteen. After telling him I was a Game Protector, he was quite assuring that his gun was only a toy and that the rabbit had been dead a long time. It had been killed on the highway and was stiff. He asked if I had a badge. When I told him I did he asked if he could see it. He showed it to his other companions whom he called back from down in the field. The boys were quite surprised but pleased that their little act had brought success from a passing vehicle, and above all, a Pennsylvania Game Protector.—District Game Protector James Burns, Jr., Central City.

Cold Catch

BERKS COUNTY – Birdsboro Police, State Police and Deputy Game Protectors united to put the heat on three deer slayers. The outlaws were apprehended in six degree temperature within minutes after they had killed a deer in French Creek State Park. The group had been under surveillance for some time and met their Waterloo at 1:45 a.m., February 11, 1962. They had all pleaded guilty to charges placed against them and paid $700 in fines plus costs to Frank R. Kulp, Justice of the Peace, Union Township. Game Law also provides a mandatory license revocation of three years for each. – District Game Protector Joseph A. Leiendecker, Reading.

CONSERVATION NEWS

Conservationists Converge On Denver

Many of North America's most prominent conservationists and sportsmen met in mid-March in Denver, Colo., for a series of important meetings and discussions about recreation, wildlife, fish, forests, soil and water.

"New Horizons for Outdoor Recreation" was the theme of the 27th North American Wildlife and Natural Resources Conference, which was held in the Denver Hilton, March 12-14. More than 1,100 natural resources administrators, technicians, sportsmen, outdoor writers, and representatives of national conservation groups from the United States, Canada, Mexico, and other countries attended the two general and six technical sessions that made up the three-day conference program.

Representing the Pennsylvania Game Commission were Commissioners James Thompson, Dewey H. Miller, R. G. Smith, and Russell Mervine, Executive Director M. J. Golden, Research Chief Harvey A. Roberts, and Wildlife Education Specialist Willard T. Johns.

Immediately preceding the Conference, the 26th Annual Convention of the National Wildlife Federation was held in Denver's Brown Palace Hotel, March 9-11. Delegates from the 50 states and the District of Columbia, each representing a state affiliate of the Federation, and visitors from federal, state, and local government agencies and conservation groups were in attendance. The Pennsylvania Federation of Sportsmen's Clubs was represented by Seth Meyers, of Sharon, and James Sheffer, of Williamsport.



Photo by Outdoor People

DENVER BOUND are these six leading Pennsylvania Conservationists. About to leave the Pittsburgh Airport for the North American Wildlife Conference at Denver in March are John F. Laudadio, of Jeannette, Legislative Chairman for the Pa. Fed. of Sportsmen's Clubs; M. J. Golden, Executive Director, Pa. Game Commission; William Guckert, Executive Secretary, Allegheny County Sportsmen's League; Fred Turrill, Game Manager, Rolling Rock Country Club; James A. Thompson, President of the Pa. Game Commission; and Ivan McKeever, State Soil Conservationist.

McArdle Retires; Cliff New Chief Forester

Secretary of Agriculture Orville L. Freeman recently announced the voluntary retirement of Richard E. McArdle as Chief of the Department's Forest Service, and the appointment of Edward P. Cliff to the position.



PGC Photo by Bob Parlaman

GAME BIOLOGISTS Lincoln Lang and Steve Liscinsky acquire deer kill data at a meat processing plant in Clarion last deer season. Lang is shown ageing a deer by teeth examination.

Commission Program Showing Positive Results . . .

Deer Herd Reported Stabilized

The Pennsylvania Game Commission's deer management program to stabilize the deer herd at a level more compatible with available food supplies has shown positive results with the 38,705 bucks reported killed last season. A harvest of this magnitude and its similarity to 1960 when 38,776 bucks were killed and 1959 when 38,270 were taken is the "pay off" for the Commission's management program. The 1961 kill of only 71 bucks less than 1960 and 435 more than 1959 does not indicate that the deer herd is in any danger of extermination as some disgruntled or uninformed hunters allege.

Opening Day Kill Low

One of the reasons hunters thought the 1961 buck kill would be lower was the smaller kill on opening day. Tabulation of the kill reports showed a reduced kill on opening day but a larger kill than usual on the second day and distributed through the season.

Bad Weather on Antlerless Day

Another reason why the overall deer kill looks low to some sportsmen is be-

cause of low antlerless kill resulting from the horrible weather on the one-day antlerless season. You may recall that on that day, December 18, most of the state suffered a severe ice storm. Only 17,327 antlerless deer were reported taken compared to the 1960 antlerless kill of 29,887. This brought the total 1961 kill to only 56,032 compared to 1960's figure of 68,663.

Highest Archery Kill

The total reported deer kill of 56,-032 also includes 1,517 taken during the bow and arrow season. This was the highest kill in the history of bow hunting in Pennsylvania. In 1960, bow hunters reported 1,174 deer killed.

Potter County on Top

Potter County led the state buck kill with 1,813 and in total harvest with 2,690 reported killed.

The ten highest county buck kills were Potter—1,813, Lycoming—1,735, Clearfield—1,577, Tioga—1,358, Centre—1,347, Huntingdon—1,345, Clinton—1,194, Elk—1,113, Bradford—1,036, and Somerset—1,031.

Other States Report Drops

Those Pennsylvanians who hunt deer in Maine may be interested to know that their 1961 total kill was 32,747 (both sexes), a drop of 5,027 from 1960 and 8,988 from 1959. The Commonwealth of Virginia reported 32,882 (both sexes), a drop of 3,000 under 1960. Early returns from West Virginia point to a low kill not to exceed a total of 4,000 (bucks only season).

Hunters Not Reporting

Game Commission officials are disturbed to find out that only 75 per cent of the successful hunters in Pennsylvania are reporting their kills. This means that 25 per cent are violating the law when they fail to fill out the big game report card attached to their license. Each year these report figures are determined when Game Protectors check successful hunters in the field and then check their figures against the kill report cards received at the Commission's Harrisburg office.

Since the state's deer kill is based on only those reported, in actuality, hunters killed far more than the 56,032 reported. Therefore, a true kill figure for the 1961 season in Pennsylvania is somewhere near 75,000 animals.

NICE TROPHY taken by Walter J. Gawrys, R. D. 1, Oil City. This buck was 2½ years old, had 13 points and was killed in Oakland Township, Venango County. It was one of 38,705 buck deer reported killed last season. *PGC Photo by Bob Parlaman*



Small Game Harvest 1961

Many thousands of persons enjoyed small game hunting in Pennsylvania during the 1961 open season. Game populations varied from high to average to less than normal dependent on the species and localities, as always. The harvest of turkeys, grouse, quail and doves increased over 1960 but the pheasant take decreased slightly. Waterfowl hunting success was better than anticipated considering the decline in the duck population. The cottontail rabbit was the principal species whose harvest dropped considerably below that of the previous year. The take of squirrels also was well below that of the 1960 season.

On the heavier-hunted days last season warm weather, dryness and heavy ground vegetation favored the hunted. Nonetheless, Game Protectors estimated that shooter-sportsmen in this state bagged small game during the 1961 season in the amounts shown below:

OFFICIAL 1961 GAME KILL

Species	*Season of 1961** *Number*	*Season of 1960** *Number*
Deer, Legal Antlered	38,705	38,776
Deer, Legal Antlerless	17,327	29,887
Total Deer	56,032 (1)	68,663 (2)
Bears	237	392
Rabbits	878,984 (3)	1,116,183 (4)
Hares (Snowshoes)	1,032	997
Hungarian Partridges	(Closed)	(Closed)
Squirrels	471,573 (5)	508,705
Raccoons	139,785	122,853
Wild Turkeys	17,312	14,920
Ruffed Grouse	59,859 (6)	56,868 (7)
Ring-necked Pheasants	462,217	481,626
Quail	23,311	19,598
Woodcocks	10,662	11,230
Rails, Gallinules and Coots	4,091	4,637
Grackles (Blackbirds)	----#	----#
Wild Waterfowl	37,874	45,228
Woodchucks	262,758	270,208
Doves	114,244	81,795
Total Number	2,539,971	2,803,903

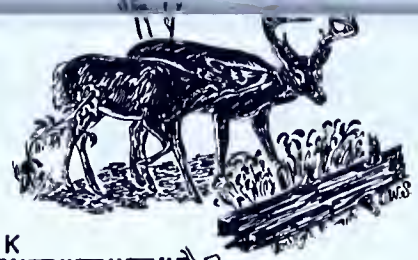
* Small Game, based on Field Officers' estimates.
Big Game, based on individual reports filed by hunters.

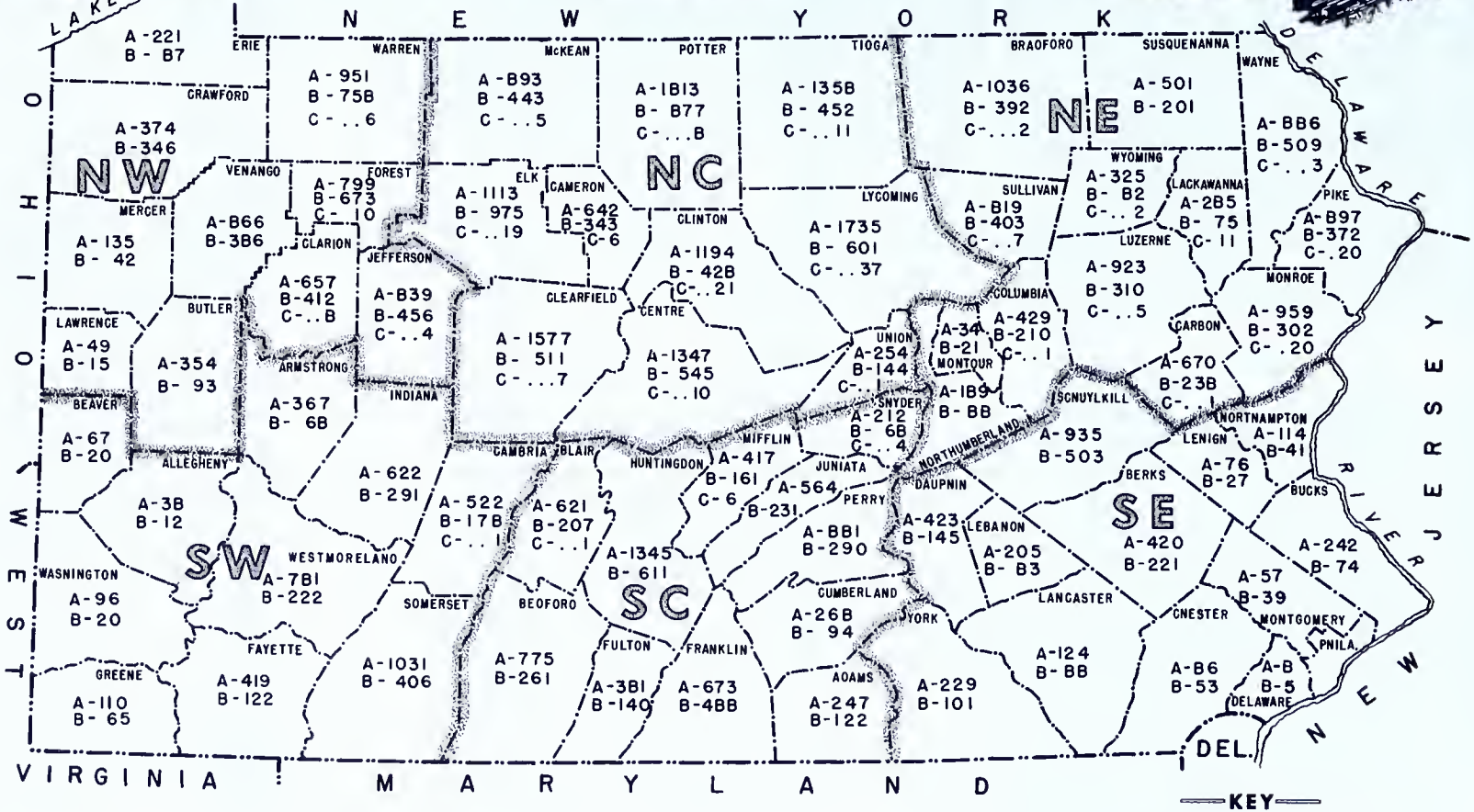
(1) Includes 1,517 Deer Killed during the 1961 Archery Season.
(2) Includes 1,174 Deer killed during the 1960 Archery Season.
(3) Includes 27,551 Rabbits killed from December 26, 1961, to January 1, 1962.
(4) Includes 42,898 Rabbits killed from December 26, 1960, to January 2, 1961.
(5) Includes 10,596 Squirrels killed from December 26, 1961, to January 1, 1962.
(6) Includes 7,001 Grouse killed from December 26, 1961, to January 1, 1962.
(7) Includes 8,495 Grouse killed from December 26, 1960, to January 2, 1961.
Unprotected—No data.

DEER & BEAR HARVEST

PENNSYLVANIA GAME COMMISSION
HARRISBURG







ANTLERED DEER (REGULAR SEASON)·····38,001
ANTLERED DEER (COUNTY UNKNOWN)·····225
ANTLERED DEER (ARCHERY SEASON)·····479
Total (BASED ENTIRELY ON KILL REPORTS)····38,705

Grand total ***DEER*** *kill*····· **56,032**

ANTLERLESS DEER (REGULAR SEASON)···16,209
ANTLERLESS DEER (COUNTY UNKNOWN)·····80
ANTLERLESS DEER (ARCHERY SEASON·····1,038
Total (BASED ENTIRELY ON KILL REPORTS)····17,327

Grand total legal ***BEAR*** *kill*····· **237**

KEY

A – LEGAL ANTLERED DEER.
B – LEGAL ANTLERLESS DEER.
C – LEGAL BEARS.
FIELD DIVISION BOUNDARY.

Five Retired Game Protectors Succumb Last Winter

During December and February of this past winter, five retired Game Protectors died. They are:

Watson B. McClarin, 84, Salladasburg, died December 9, 1961. Mr. McClarin began his Commission service as a Deputy Game Protector November 1, 1923. He was later appointed a District Game Protector and continued in various assignments until his retirement April 20, 1942. His record shows that he was a vigorous and competent officer and retained a keen interest in conservation after retirement.

John F. Blair, 68, Sycamore, died February 6, 1962. Mr. Blair was appointed a District Game Protector December 1, 1934. The major portion of his career was devoted to Greene County, and approximately six years in Fayette County. John was an outstanding emissary for the Commission, particularly his relationship with farmers and sportsmen. His interest in all Game Commission activities continued after his retirement in July, 1959.

D. Ambrose Gerhart, 74, Souderton, died February 20, 1962. Mr. Gerhart began his Commission service as a Deputy Game Protector June 16, 1916, gaining considerable experience in various counties during big game season in addition to Montgomery County. October 1, 1926, he was appointed a District Game Protector in Lehigh County. From October 1, 1920, until his retirement in October, 1951, he was District Game Protector in Montgomery County and a member of the 25-Year Club. Pete's courage and ability were well known to those who worked with him.

Edgar M. Woodward, 69, of Bedford, died February 21, 1962. Mr. Woodward was appointed a District Game Protector August 16, 1932, in Somerset County. In 1937 he was assigned to Centre County. From 1939 until his retirement December 31, 1957, he served in Bedford County as a District Game Protector. He was a member of the Game Commission's 25-Year Club, establishing a reputation of loyalty and cooperation among his fellow officers and sportsmen.

William T. Campbell, 65, of Franklin, died February 24, 1962. Mr. Campbell began his Game Commission career as a Deputy Game Protector October 27, 1932. He was appointed Game Protector in Venango County in 1934 and served in that capacity until his promotion to the position of Law Enforcement Assistant in the Northwest which he held until his retirement at the close of 1960. Bill was a member of the Game Commission's 25-Year Club and held in high respect by his fellow officers.

FOREST PRODUCTS SOLD, LAND BOUGHT BY COMMISSION

During 1961 the Commission sold, in round figures, these forest products: 2,800,000 board feet of saw timber, 13,700 cords of paper and chemical wood and 6,900 tons of mine timbers and props.

Commission personnel also completed timber surveys of approximately 85,000 acres on five State Game Lands as part of the program toward the development of management plans for these publicly-owned properties.

The purchase of 16,040 acres last year through the Game Fund brought the total acreage of State Game Lands in Pennsylvania to more than 967,000 acres by the end of 1961.





JEEP CARAVAN surges through wilderness areas to fill turkey feeders in northwestern Pennsylvania. The Allegheny Jeepers were often accompanied by Jack Miller (right), District Game Protector in Venango County.

Game Feeding by the Oil City Jeep Club

By George Stroupe

A group of Jeep owners in the Oil City area have formed together and organized a club. They call themselves the Allegheny Jeepers. The club now has a roster of over 50 members and 20 Jeeps. It is a family club of husbands, wives and children which accounts for the fact that there are more members than Jeeps.

The Jeep club was organized two years ago to serve law enforcing agencies, county fire departments and civil defense in time of emergency.

The most recent task that the "Jeepers" have taken on is game feeding. The club members have built and placed over 25 feeders in the deep woods in parts of Venango County. Each week last winter the members met to check and refill the 25 feeders. The corn that the club placed in the feeders was donated by sportsmen farmers or by the Pennsylvania Game Commission. The club worked closely with the Game Commission in this project. From time to time a Game Protector accompanied the Jeep club to see if the feeders were being used or if they should be moved to a new location.

In order to locate the feeders in game areas, the Jeep club crossed streams that were hub deep; often cut their own trails. The trails that they follow would surprise a mountain goat. They drove like experts as they maneuvered their Jeeps along a narrow trail that had been cut into a hillside. The slightest wrong turn of the steering wheel would have sent them crashing several hundred feet to a valley below. Some of the feeders were in such remote places that the Jeeps always traveled in pairs or in groups in case help was needed.

If on some Saturday you wish to go along with the Jeep club and do a good deed, they will guarantee that you will not become bored. As there is a thrill a minute on any of their safaris.



PGC Photo by Vern VanOrder

BULLDOZING to improve wildlife habitat in the Allegheny National Forest. Pole and sapling growth pushed down allows growth in the trees to continue because the roots are still intact. This operation produces both food and cover. The strip in the middle (being dozed) 35 to 40 feet wide will be planted in bird's-foot trefoil for pasture.

WILD MOTHER KNOWS BEST

From now until autumn Game Proteetors will receive ealls from adults who will say, "My little boy brought home a nest of tiny rabbits," or, "I found an abandoned fawn deer."

Game Commission field men are amazed at the number of such incidents because the admonition "Leave them alone" has been repeated, over many years, through the use of every possible information medium. Sometimes, unfortunately, a Game Proteetor must take legal action against a person who has taken, or possesses wildlife.

Common sense should tell mature people that the wild mother will rear her young more sueeessfully than humans ean. Parents are requested to instruct their children on this point, stressing that *wildlife, nests and eggs must not be touched.*

Naturally, small game mothers flee and timid doe deer temporarily leave their fawns when humans approaeh, making it appear that the young or a nest has been abandoned. Mama bear may be an exception, in whieh ease she demonstrates to meddlesome humans that they would be wise to leave her cubs alone.

"Cute" wildlife sometimes injures its would-be benefaetors when held in captivity. Therefore it is wise to observe and enjoy the birds and animals in natural habitat—at a distanee—but to be humane and *leave them alone.*

Federal Survey Shows Major Decline in Some Ducks and Geese in the Atlantic Flyway

A recent annual cooperative survey of wintering waterfowl populations in the Atlantic Flyway by the Fish and Wildlife Service showed waterfowl numbers declined from a year ago, the Department of the Interior reported recently. Total ducks in the flyway were down about 7 per cent and geese were off 23 per cent to 50 per cent, depending on the species. The winter survey is conducted in cooperation with state and federal agencies.

The important black duck shows little change from last year. Some other much-sought-after species continued to lose ground. The mallard was down 25 per cent, pintail off 18 per cent, canvasback decreased 13 per cent, and ringneck down 20 per cent. The widgeon and redhead exhibited a slight improvement (10 per cent) over last year, and the relatively abundant scaup showed no change. Considering all favored duck species together, there was a moderate decline for the flyway as a whole, the Fish and Wildlife Service said.

Goose species, which have done so well in recent years, exhibited drastic reductions in numbers. Only about half the number of brant is present in the flyway this year, compared with 1961. The greater snow goose shows a loss of over 25 per cent, and the swan a decrease of more than 33 per cent. Even the Canada honker had a loss of nearly 25 per cent. Apparently, these far-north nesters had very poor production during the past summer. Field checks by technicians in the flyway during the fall and winter indicate a marked scarcity of young birds in the flocks.

The annual winter survey is a cooperative effort among the Bureau of Sport Fisheries and Wildlife, state fish and game departments, and the Armed Services. Surveys also are carried out simultaneously in Canada by Canadian authorities. This year's survey was conducted from January 8 to 14.

The information concerns only the survey in the 17 states of the Atlantic Flyway. Approximately 191 individuals participated, using 29 aircraft, 58 cars, and 3 boats. The 22,920 miles traveled by air, the 3,750 miles by car, and the 218 miles by boat gave good coverage of the major wintering areas.

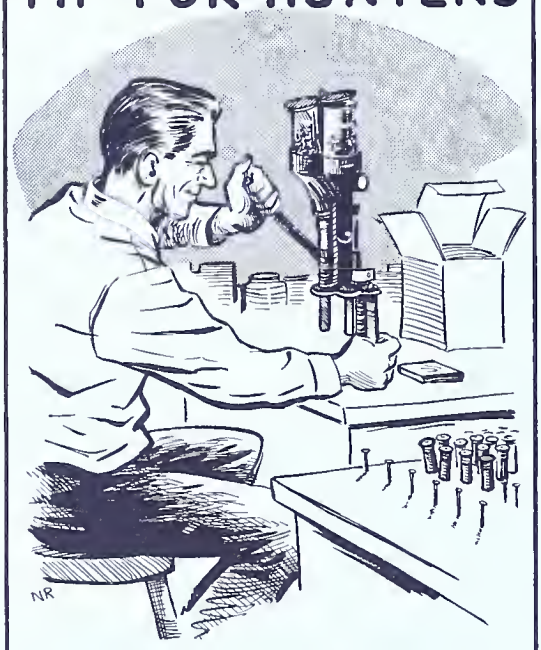
The 17 Atlantic Flyway States are: Connecticut, Delaware, Florida, Georgia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia, West Virginia. The District of Columbia also is included as one of the areas counted.



Photo by R. G. MacLeod

TRAGEDY IN DEEP WOODS. This button buck, feeding on fungus and bark of a birch tree caught his foot in the crotch, panicked and died of exhaustion. Deer have been known to get caught by their heads, but by the foreleg is very unusual. This deer was found in the Tannersville-Big Pocono area of Pennsylvania.

TIP FOR HUNTERS



For the re-loader, 20-penny nails placed in a board will serve well as a holding rack for shotgun shells being processed. A special pencil that will mark on wax can be used to indicate the size of shot loaded in each individual shell. Thin card wads placed over the shot before crimping will prevent shot from leaking into gun actions. Carry re-loads in plastic bags when hunting on wet days to prevent swelling.—*Reverend George L. Harting.*

First National Deer Disease Conference

The First National Deer Disease Symposium was held February 12-15 in Athens, Ga., and all aspects related to disease, nutrition and physiology of deer were presented. Pennsylvania Game Commission field biologists Stephen A. Liscinsky, leader of this state's white-tailed deer study, associate leader Stanley E. Forbes and assistant leader Lincoln Lang were in attendance. They reported that all conference participants believed problems of deer nutrition to be of paramount importance.

Over 200 persons representing 29 states and 2 Canadian Provinces were present. Biologists and administrators at both the state and federal level predominated. Also in attendance, however, were representatives of universities, wildlife students, USDA laboratories, U. S. Forest Service, veterinarians, outdoor writers, sportsmen and others.

Though a major portion of the conference time was devoted to diseases and parasites of deer, the role nutrition plays in keeping a deer herd healthy was emphasized many times. The undernourished deer harbors and sometimes succumbs to the effects of parasites and diseases, it was stressed. On the importance of nutrition both Dr. Cowan, Penn State University, and Dr. Robert W. Davis, of Colorado, pointed out that the overall condition of the deer has a profound effect on antler growth and, probably, fawn production. The nutrition level of the parent also has a decided influence on newly born deer. A Michigan biologist stated his studies indicate that a substantial portion of new-born fawns do not survive 48 hours after birth because nutritional deficiencies of the mother do not give them the vigor to withstand the rigors of the new life.

Body growth takes precedence over antler growth, therefore the nutrition level and general condition of the deer determine the progress of antler development. Though age and heredity play an important part in antler development, it is next to impossible for bucks suffering from poor nutrition to produce large racks.

The program and discussions at this first national conference on deer revealed extensive studies and work in progress concerning deer. Undoubtedly sportsmen will benefit from these studies as they are all related to the welfare of a most valuable resource, the white-tailed deer.

21 STUDENT GAME PROTECTORS NAMED

Twenty-one men were enrolled as the 11th Class of Student Officers in the Game Commission's Ross Leffler School of Conservation, located in Jefferson County, on March 25 and began training to become Game Protectors. The aspirants who qualified for the course through written, oral and physical examinations are listed below:

Name	*Address*	*County*
Donald E. Benner	203 Wausau Road, Middleburg	Snyder
Franklin A. Bernstein	R. D. 1, Orefield	Lehigh
John A. Booth	61 South Main Street, Mansfield	Tioga
Kermit W. Dale	120 Market Street, Mifflinburg	Union
William F. Dolby	525½ Else Street, Clarion	Clarion
Lee Anderson Dunn	528 Hulton Road, Oakmont	Allegheny
William D. Eisenhart, Jr.	1328 Twentieth Avenue, Altoona	Blair
Hans Peter Goedeke	924 North Ninth Street, Wyomissing	Berks
Duane W. Gross	R. D. 1, Woodland	Clearfield
Kenneth L. Hess	532 Baer Avenue, Hanover	York
James C. Hyde	R. D. 1, Manns Choice	Bedford
Lawrence A. Kuznar	R. 213 Spruce Street, Kingston	Luzerne
Donald C. Madl	Pittsburgh Street, Mars	Butler
David Lee Moyer	Orwin	Schuylkill
Harry T. Nolf	Box 34, Putneyville	Armstrong
Dorsey R. Smith	Breezewood	Bedford
Dale Leroy Stitt	729 Sixth Avenue, Brackenridge	Allegheny
Gerard W. Wendt	532 Barry Street, Stroudsburg	Monroe
William Ned Weston	P. O. Box 65, Osceola Mills	Clearfield
Charles J. Williams	Apt. 5, College Project, Waynesburg	Greene
Lorraine E. Yocum	R. D. 2, Lewistown	Mifflin

The trainees who successfully complete the 10-month course, approximately two-thirds at the school and one-third gaining practical experience in the field, will be commissioned Pennsylvania Game Protectors and given probationary field assignments for one year. If the initial year of service is satisfactory they then become full-fledged members of the Game Commission's field service.

ILLEGAL AND ROAD KILL DEER hides are being graded here by Norbert Molski (right), Law Enforcement Assistant in the Northeast Division, and Food and Cover Corpsmen Henry Rodeghiero and Adam Hoda. These hides were acquired from deer illegally and accidentally killed. They are then sold to highest bidder on a state-wide basis.





25 PENNSYLVANIA YEARS



BYRON R. KINZER
Game Propagator
Wild Turkey Farm

Mr. Kinzer began his Game Commission employment on a per diem basis February 25, 1933. July 16, 1936, he was appointed a Game Propagator and served in that capacity until his resignation August 23, 1945. He returned to work on a per diem basis March 22, 1948, and was re-appointed a Game Propagator May 3, 1948, and has been employed continuously at the Wild Turkey Farm from this time.

JOSEPH W. KISTNER
Game Protector-Land Manager
Jersey Shore, Pa.

Mr. Kistner began his Game Commission service as a Student Officer July 2, 1936. His original appointment March 1, 1937, was a Game Refuge Keeper. January 1, 1939, he was appointed a District Game Protector and continued in that capacity until his re-assignment August 1, 1956, to a Game Protector-Land Manager, his present position.





DUANE E. LETTIE
Land Manager Assistant
Northeast Division Headquarters
Dallas, Pa.

Mr. Lettie began his Game Commission service as a member of the First Student Officer Training Class, enrolling July 2, 1936. His first appointment March 1, 1937, was a Traveling Game Protector. March 15, 1944, he entered military service and returned to duty March 16, 1946, as a District Game Protector. He was promoted to the position of Game Land Manager, II, November 22, 1958, in the Northeast Division Headquarters, which position he still holds.

AME COMMISSION

LUB





JOSEPH A. LEIENDECKER
District Game Protector
Reading, Pa.

Mr. Leiendecker began his Commission service as a Student Officer July 2, 1936. Upon graduation March 1, 1937, he was appointed Traveling Game Protector, and later District Game Protector. He entered military service March 3, 1944, and returned to duty with the Commission March 15, 1946. May 15, 1956, he was promoted to P-R Area Leader in the Northeast and Southeast Divisions, and returned to his former assignment July 5, 1947, which position he presently holds.



RAYMOND E. HOLTZAPPLE
Game Protector-Land Manager
Middleburg, Pa.

Mr. Holtzapple began his Game Commission service on a per diem basis July 10, 1936, until his appointment to the Second Student Officer Training Class. After graduation from the School he was appointed a Game Refuge Keeper, and appointed Game Protector January 1, 1939. The major portion of his service was devoted to Land Management with headquarters at Mt. Gretna and later at Middleburg.



MRS. ANNA M. ROEBUCK
Domestic Worker
Harrisburg, Pa.

Mrs. Roebuck was appointed Janitress August 24, 1936. Her title was changed to Domestic Worker August 1, 1956, which position she still holds. Her service has been continuous from her original date of appointment.

Force Behind the Winning County

By Thad Bukowski

Photos by the Author

THE driving force behind Lawrence County's winning of the "County of the Year" award presented by the Pennsylvania Federation of Sportsmen's Clubs was Bob Moorhouse, then president of the County Council.

Coon and fox hunter Bob Moorhouse served as president of Lawrence County Council of Conservation Clubs for two years and is now delegate to the Northwest Division of Sportsmen's Clubs. He has done more with a friendly attitude and persistent work than any man in the history of the county to consolidate area club and conservation activities and instruct youth in the realm of the outdoors.

Moorhouse's efforts in teaching these youngsters have been aided by the work of Lawrence County Game Protector Cal Hooper and sportsmen Louis Zeelsdorf and W. T. "Pat" Patterson in conducting a yearly youth conservation camp. N.R.A. activities for young people have been greatly stimulated by the work of adult club members Orville Grossman and Albert Yoho.

Many others have contributed untiring effort to make the county hit the top but all efforts have been coordinated by Moorhouse who reported to the public in his weekly radio chat "Target Talk."

A summary of Council's efforts for the past year when Lawrence County won the state award included:

1. Adding five clubs to council membership, bringing the total to 12 (Two more have been added since).

2. Published monthly Council bulletin which helped greatly in setting up meetings, dates, places and agenda with resulting increases in attendance and interest.

3. Preparation of an Outdoors Booth at Lawrence County's annual Sports Show at the Cathedral in New Castle, attended by nearly 12,000 visitors.



SPORTSMAN OF THE YEAR award is presented here to Bob Moorhouse (right) by Lawrence County Commissioner George Bolinger for Moorhouse's efforts in sportsmen activities after Lawrence County won "County of the Year" award.

4. Set up 21 cages with animals and birds and 10 species of fish, eels and turtles at the Lawrence County Farm Show in cooperation with the Pennsylvania Game Commission and the Pennsylvania Fish Commission.

5. Held a fifth consecutive conservation school in the county with 27 boys attending for one week of schooling and outdoor experience, with County Council collecting the tab (Mrs. Moorhouse worked as one of the cooks and pie-bakers for the boys).

6. Published the first County Council "Yearbook" covering information about the Council and affiliated clubs along with outdoor tips and items of interest to sportsmen.

7. Member clubs raised 5,857 of 7,000 pheasant chicks received from the Pennsylvania Game Commission for stocking throughout the county.

8. Conducted conservation tests and as a result sent four boys to the Pennsylvania Federation of Sportsmen's Clubs Conservation School (paid for by Council).

9. Raised and released 750 quail.

10. Planted 50,000 seedlings by affiliated Council clubs during the year.

11. Qualified 37 men and women as N.R.A. instructors.

12. Set out 540 bushels of Pennsylvania Game Commission corn in the winter feeding program.

13. Attended all division, state meetings and field trips conducted by Pennsylvania Federation of Sportsmen's Clubs, Fish and Game Commissions.

14. Held a two-day "Field Day" to raise money for youth camping activities and a dog show. The dog show stimulated interest in organizing the Lawrence County Kennel Club.

15. Supported the Western Pennsylvania Conservancy through memberships from member clubs.

16. Promoted an essay contest and awarded county prizes in addition to state prizes. A total of 55 essay writers entered the contest.

17. Provided archery instruction through member clubs to many adults and youngsters interested in learning the sport.

County Council gave Moorhouse a special "Sportsman of the Year" award at its annual banquet at the Cathedral. The award was presented by County Commissioner George Bolinger, who is also County Chairman of Western Pennsylvania Conservancy.



APPLE PIE for Willie DeFelice, voted most popular boy at Lawrence County Conservation Camp last year. The camp aided in winning Lawrence County the award. Mrs. Bob Moorhouse is serving.

Housing Developments in the Boas Street Woods

By Marian N. Baker

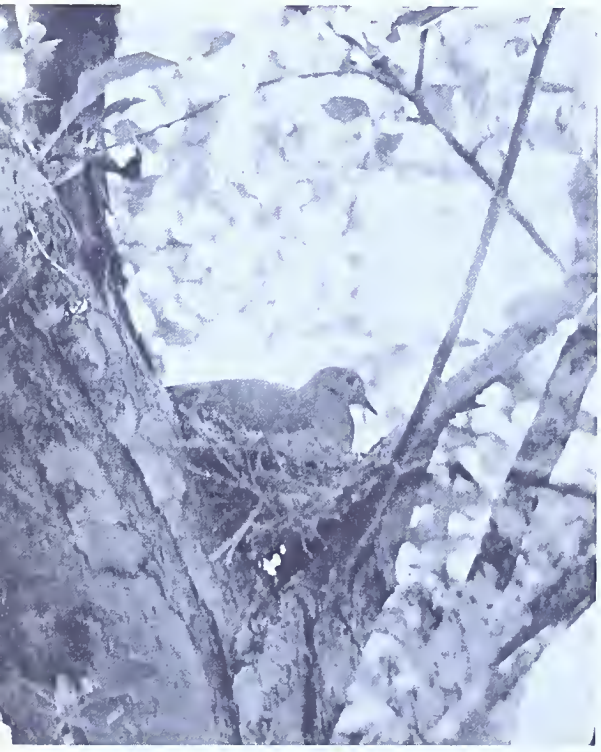


Photo by Elwood Grimes

HANDFUL OF STICKS is all that the mourning dove requires for its nest. This dove nested in a neighbor's yard, placing the sticks in the horizontal fork of an apple tree.

JUST before the first gray light appears in the east the robin chorus begins in the Boas Street Woods. They sing all at one time, but every fellow for himself with rather confusing results. In a short time this part of the morning anthem is over and the twitters and calls of the English sparrows and starlings take up the refrain. Later, about the time the dandelions are opening, the bubbling notes of the house wren are heard as it scurries about in the garden like a dusky brown mouse. The fact that a long busy day lies ahead does not seem to dampen their spirits.

The robins collect great trailing mouthfuls of dried grass and fly to a crotch in the Norway maple where they place it with great care, scrouging about to get it in the right position. Sometimes much of the first material falls to the ground. As if nothing had happened the robin is off again for more grass—never attempting to salvage its lost property.

Another robin chose to reinforce its nest with pieces from a paper handkerchief which it found entangled in a bush. She made several trips until every shred was transferred bit by bit to the nest. The dry materials are peppered with mud and shaped to the contours of the bird's body.

The boughs of the Norway spruce offer protection for nesting birds. There on a flat branch another robin has built a nest which can be seen only when the gentle swaying of the branches reveals it. The purple grackles preempted the topmost branches of this same tree where they built a sturdy nest of grass and weed stalks in a crotch near the trunk. While the nest building was in progress other grackles seemed to be looking on and making comments.

Of course the wren needs only select a house to its liking, or rather to the liking of its mate. The males will often place a token amount of sticks in several possible nesting sites in order to



post "no vacancy" signs for other male wrens as they await the arrival of their mates. One such industrious husband put sticks in each of two fishing boots and a clothespin bag hanging on the line before finally settling for the reel where the clothesline was attached—entering by a small circular opening. Sometimes wrens will use these same tactics where several wren boxes have been placed in close proximity, to stake a claim to all available sites since they do not tolerate any close neighbors of their own kind.

Four in One Yard

In a neighbor's yard there are four pairs of nesting birds—two pairs of robins and a pair each of mourning doves and English sparrows. The one pair of robins and a pair of English sparrows have built in the sheltered depth of an arborvitae tree. The nests are so close that they seem to be continuous, with that of the robin on top. The sparrows' creation is a globular structure of dried grass and weed fibers with a circular opening on the side. The other pair of robins built on a trellis outside the kitchen window. The mourning doves have placed a handful of sticks on the horizontal fork of the apple tree, close to the trunk.

English sparrows, in a great majority of cases, build in rain spouts and under the eaves of houses, but here in the Boas Street Woods I have found two pairs that have built their nests in evergreen trees.

He Was Determined

One day I watched a cocky little male English sparrow getting material for its nest. He was tugging at a withered tuft of grass that resisted all his efforts. Holding several strands securely in his beak he would attempt to fly away only to be hurled to the ground by the stubborn grass. When I first noticed the activity I thought that the bird had become entangled and was unable to free itself, but this was not the case. In the midst of this struggle a perky little female sparrow arrived on the scene. This apparently was the last straw, he refused to tug any more in the presence of this spectator, probably sensing that he looked a little ridiculous. As soon as she had flown away he began again with renewed effort and soon went off with at least half of his prized material.

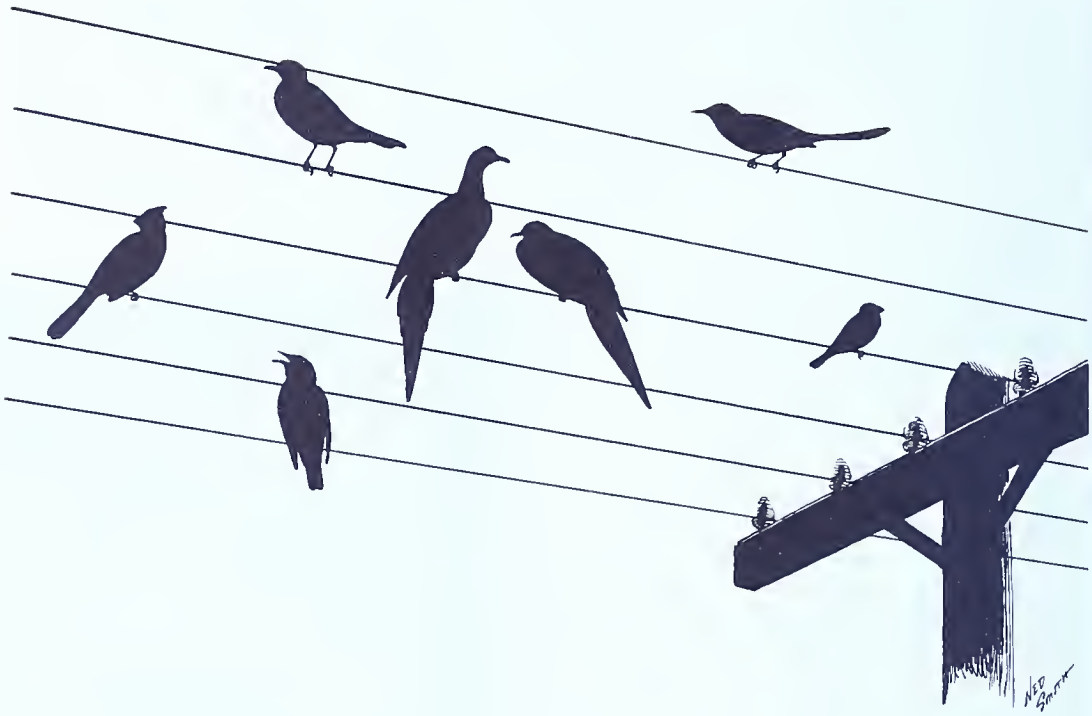


Photo by Elwood Grimes

TWO WHITE EGGS are the usual clutch of the mourning dove. Usually doves have several broods a year and are early starters. The young doves are about as homely as any species of young bird, but they soon acquire the sleek beauty of the parent.

The starlings have built a nest under the floor boards of our back porch, where they enter from the porch below. It is a nesting site to which they return year after year. All day long they fly in and out with caterpillars and grubs for their clamorous young. When evening comes they rest on the telephone wires and make a feeble attempt at song.

The utility wires in the Boas Street Woods serve as excellent perches for the evening soloists, whose characteristic silhouettes can be seen outlined against the evening sky like animated notes on a music score.



NOTES ON A MUSICAL SCORE. These evening songsters in Boas Street resemble the animated notes on a music score. The utility wires are the lines and the pole the "G" clef.

The catbird, whose bulky nest of twigs is concealed in the lilac hedge, likes to sing from this elevation. It is a trim gray, robin-size bird with a black cap and chestnut markings under its tail. As it sits on the wire, with its tail drooping straight down, it sings a varied and melodious aria. No matter how unusual its song may be, somewhere in its rendition it gives itself away by interposing a few characteristic cat-like mews.

Nighthawks Overhead

From high in the evening sky against a background of sunset clouds comes the "Peent, Peent" and occasional booming of the nighthawks. These birds are equally at home above the clatter of downtown traffic or the comparative calm of the Boas Street Woods. Look up on this May evening and you will see one or more erratically circling about in company with the smaller skittering chimney swifts. The nighthawk is not a hawk at all, but a close relative to the whip-poor-will. It is a mottled brown, robin-size bird with long curved and pointed wings that show white patches beneath in flight. It sweeps the sky this way, then that—then appears to hover for a moment as it utters its nasal notes. After a few repetitions of this performance it plummets to earth with breathtaking speed. Midway in its descent it checks its flight with a booming application of brakes and sweeps upward to continue its aerial maneuvers. Scientists say the booming is a mechanical sound produced by the air rushing through the wing feathers as it checks its flight. These acrobatics are not all for show since the bird's diet consists of insects which it captures in its wide mouth as it sweeps the sky.

Builds No Nest

The nighthawks build no nests, but deposit their eggs on the flat roofs of buildings. Here the problem is not so much keeping the eggs warm as protecting them from the extreme heat.

Their companions, the chimney swifts, build their nests in the sooty depths of the unused chimneys in the Boas Street Woods. The nests are brittle saucer-shaped structures made of twigs glued together and to the rough surface of the chimney with saliva from the bird's mouth.

Lurking on the outskirts of all this nest building and industry is an all-over gray bird, a little larger than a sparrow, that seems to be remarkably fearless. This is the female cowbird. Her mate is the black bird with a brown head that you have probably seen walking about with flocks of his fellows in late summer. The actions of the female cowbird are slow and unconcerned. She seems to be waiting for something, which indeed she is—waiting for some industrious bird to get its nest built so she can deposit an egg in that nest and relegate all future care to the foster parents.

The evening chorus of the birds is more subdued than that of the morning, although the robins do sometimes get together at one end of the Boas Street Woods and sing as a group.

SUGGESTIONS

1. Put out some building materials for the birds. They appreciate bits of yarn or string. Be sure that the pieces are short, so that the birds do not become entangled in them.

2. Look at the seeds of the silver maple trees. In a few short weeks they have matured. You will find drifts of them under the trees. Compare them with the seeds of the Norway maples which require all summer to mature.

3. Add the garden iris to your garden flower guide. The iris is a strange flower in that all its parts, with the exception of its well hidden stamens, are quite different from other flowers. The style is divided into three petal-like divisions which, with the sepals directly below them, form tubes of varying lengths in different species, in which the stamens are concealed. The three petals alternate with the three tubes. Some species of iris have beards on the sepals, others are quite smooth. The petals of the garden iris overlap each other above the bearded sepals.

Watch an insect alight on the tip of the sepal which bends down with its weight. In its search for nectar the insect's back brushes against the flap-like stigma as it enters the flower and then against the anther which lies farther back under the protecting style.

WILDCATS PROVIDE WINTER SPORTS

Wildcats appeared to be unusually numerous last winter in the Lycoming-Clinton-Bradford County area. During and since the big game season of 1961 at least eight or ten cats have been killed in the mountainous regions of these three counties.

The latest and probably the largest kill was made in mid-February in the Red Run area near the Lycoming-Bradford line. Nelson Ward, of Roaring Branch, shot a 27-pound cat with a 30-30 Winchester rifle while hunting with his dogs.

Vermin hunters were aware that a big wildcat was roaming this section because during the last deer season a hunter from New Jersey killed a wildcat near Canton and saw tracks in the snow made by a cat considerably larger than the one he killed.

The Corson Taxidermy Shop at Cogan Station, R. D. 2, north of Williamsport, had seven wildcats brought in for mounting last winter, all coming from the three-county area.

A wildcat killed near Beach Creek between Lock Haven and Bellefonte last winter matched in size the recent kill of Ward's.—*W. Boyd Tobias, South Williamsport.*



HISTORY OF THE BOW went back much farther than the American Indian. Interesting books written on this fascinating subject tell us that the bow antedates the period of recorded history. The bow was the primary weapon for battles between the ancients.

The History of the Bow and Arrow Is a Fascinating Subject . . .

ARCHERS' LIBRARY

By Tom Forbes

HISTORY in a broad sense is the record of Man's attempts to create an enduring social order. While wars appear to dominate the pages of history, those things which have endured are the products of men's minds. At any given time civilization is basically the sum of man's answers to the problems of society and the universe. To appreciate fully our times we do well to delve into the past to gain a proper perspective of the progress that has been made in all fields of human effort.



The modern archer who looses an arrow at the target butt or carries a bow in the hunting field in pursuit of game is practicing an art that had its origin in antiquity. There is plenty of evidence that the bow antedates the period of recorded history. The history of the bow is an engrossing subject and the archer with an inquiring mind is fascinated by the wealth of material dealing with the bow which is available in our public libraries. True, much of it is difficult to locate as the bits and pieces are only part of a larger picture of the past. Nevertheless, by diligent and painstaking research dedicated individuals have assembled and relate the historic impact of the bow on man's struggle for survival.

Edmund Burke in his "History of Archery" relates within a single vol-

ume the military conquests of the ancients in which the bow was the primary weapon and the decisive factor in victory. Seven hundred years ago the Mongol Horde led by Genghis Khan swept out of the Gobi Desert. His mounted horsemen, armed with the bow, overran almost all of the ancient civilizations and he made himself master of half of the known world. Furthermore his empire did not collapse at his death. So well had the Great Khan moulded his empire that his son and his grandson after him continued to rule from Korea to Armenia, and from Tibet to the Volga.

Left No Record

The Mongols left no written accounts and we are indebted to their adversaries for a description of a typical mounted warrior of the Horde. Every man had two bows and carried in addition a spare arrow case which was covered to protect the arrows from dampness. A leather kit contained spare bowstrings, wax, and files for sharpening arrow heads in addition to a cook pot and a nose bag for his horse. For side arms the heavy cavalry carried a saber and an axe which hung from their belts. Their bows had a drawing weight of up to 100 pounds and they were excellent marksmen, shooting from the back of the horse at full gallop. A favorite ruse was to appear to retreat and when the pursuer drew near to turn in the saddle and shoot to the rear. Harold Lamb's book on "Genghis Khan, the Emperor of All Men" will be found in your local library. In Central Asia the desert sands cover the site of Samarkand, the capital city of the Empire created by Tamerlane. His warriors, too, were masters of the bow and he was master of Asia during the reign of Henry IV of England. One of his grandchildren built that gem of architecture which we know as the Taj Mahal. You may read of his exploits and his warriors in Harold Lamb's "Tamerlane, the Earth Shaker."



Photo by Tom Forbes

THRILLING ACCOUNTS and valuable information concerning the bow can be found in the books about archery. David Lane, of Camp Hill, is shown here engrossed in one of many books available on this subject.

Tool of Kings

Burke writes of the warriors of ancient Egypt and his book contains illustrations of Kings hunting lions with the bow. The king rides in his chariot and is attended by a servant who holds a supply of extra arrows. The Ruler is shown with the bow at full draw and the right hand extends considerably beyond the ear. The modern release is one variation of the method used by the ancient Egyptians.

The Bow in Medieval England is the subject of "Toxophilus" written by Roger Ascham in 1554. A copy of the rare second edition from the library of the Duke of Manchester is priced today at $475. "English Works of Roger Ascham" by William A. Wright published in 1904 is currently priced at $10. The later work is probably available in a good reference library.

A. Conan Doyle wrote two novels describing the adventures of a company of English Archers who fought on the Continent when the bow was the principal weapon of the English foot soldier. Read about Johnson and his feats with the long bow in his match with a crossbowman. The

books are a lively account of the bowmen in action and their escapades during their off duty hours. These books are out of print but copies may occasionally be found in secondhand book shops.

Bow hunting as a popular sport was slow starting. It gathered momentum in the '30's when an archery deer season was established and legislation was introduced to make the bow a legal weapon for hunting game. Prior to the interest in hunting the sport of archery was generally confined to target competition under the rules promulgated by the National Archery Association of the United States.

Dr. Robert P. Elmer, author and editor of several books on archery, was Champion Archer of the United States in 1914, 1915 and 1916. His first book entitled "American Archery" was published under the auspices of the National Archery Association of the United States in 1917. "Archery" was published in 1926, 1933, and again in 1939. "Target Archery," first published in 1946, was followed by an English edition in 1952. These volumes cover the entire field of American Target Archery; the history, equipment, techniques, bow making, records, etc. Dr. Elmer was a resident of Wayne, Pa., and was still active in competition in 1950 when he shot in the 66th Annual Championship Tournament of the National Archery Association of the United States held at Lancaster, Pa. The value of his books is their historical content and they provide valuable reference works. All the books are out of print but copies are still available at prices ranging from $5 to $8.75, from Nicklas and Parker, 24 Lake Street, Cooperstown, N. Y., dealers in new, old, and rare archery books. You may secure their catalogue free upon request.

Among the present-day books on archery a complete handbook of the sport is available in the "New Guide to Better Archery" written by the author. It contains complete coverage of target and field archery, instructions on the technique of shooting the bow, chapters on hunting and advice on purchasing equipment. This work is in its second edition and is priced at $5.50. Available at most book stores or from The Archers' Publishing Company, P. O. Box 832, Norristown, Pa.

A recent addition to the Archers' Library is G. Howard Gillelan's "The Young Sportsman's Guide to Archery," Thomas Nelson & Sons, New York. Contrary to most present-day practice the book is profusely illustrated throughout by black and white photographs which illustrate the well written text on how to shoot a bow. A partial listing of the table of contents discloses chapters on: The Bow, Arrows, Accessories, Shooting the Bow and Arrow, and Hunting and Fishing with the Bow. The 96 pages of the book are bound in a hard cover and the book is priced at $2.50. Anyone who contemplates taking up the sport of archery should consider this book a must. A study of its contents will assure the beginner of the correct way to master and enjoy the sport.

Extend your archery horizon by exploring the lore and history of your favorite sport as it is recorded in the printed page.

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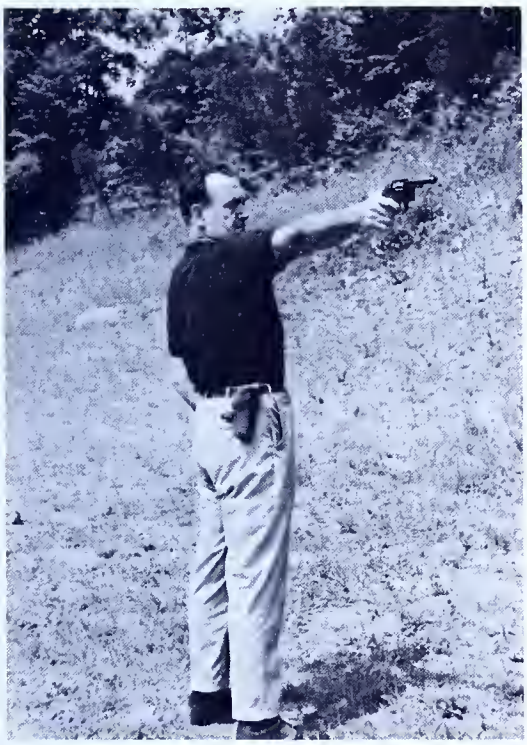
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Include the F.B.I. Pistol Course In Training Program

By Jim Varner

Photos by the Author



F.B.I. INSTRUCTOR Vince Dougherty, Scranton, zeroes-in on the special silhouette target at 60 yards. He is using a 4-inch barrel Colt .357 Magnum Service Arm.

EARLY last summer it was my good fortune to be able to assist a good friend of mine, Vince Dougherty, F.B.I. Agent in Scranton. His duty then was instructing members of different borough and city police departments in northeastern Pennsylvania at the practical F.B.I. pistol or handgun combat training course. Perhaps, data on this interesting course of revolver and pistol marksmanship will prove, not only interesting but practical to N. R. A. Clubs, other police units, and even hunting and recreation clubs which have suitable range facilities.

This Firearms Training School is sponsored by the Pennsylvania Chiefs' of Police Association and John Tretheway, of Stroudsburg, Pa. This writer attempted to record on film the interesting and efficient job F.B.I. Instructor Dougherty accomplished with some 25 policemen and one or more of our Game Commission field men who are always anxious to sharpen their trigger reflexes. The course took four whole days and was fired on the Cherry Valley Rod and Gun Club Range between Snydersville and Saylorsburg, Pa. The Cherry Valley Range is well laid out from a standpoint of convenience and safety for all shooting from trap to 200-yard big-bore rifle matches.

The modern law enforcement officer is expected to be proficient with his firearm. This is definitely a basic need and requirement stressed by all law-abiding citizens, who depend upon his marksmanship ability. If he is a poor shot, does not understand his weapon's potential, fails to exercise proper judgment in its use, he may die or injure or kill an innocent bystander in the performance of his duty. So you see, this special training for our Commonwealth's police departments by special F.B.I. instructors is one of which we should all feel proud. It actually dovetails right in with our firearms training and N.R.A. conducted





THAT SATISFIED LOOK is on the face of District Game Protector John Doebling, of Monroe County, after he scored in the high 90's in the F.B.I. Training Course.

Hunter Safety courses. This F.B.I. Training Course is available to all police and law enforcement departments in the state.

The target used by the Federal Bureau of Investigation in their training program is known as B-21 silhouette. Its size is 35 x 45 inches. The black area is about the size of the torso of an average man and is divided into sectors designated as "disabling" or fatal areas when punctured by average to heavy factory-loaded military and police ammunition. Thus, it has two methods of scoring—"kill" and "disable." All F.B.I. and well trained police departments stress bringing in the most desperate criminals alive if at all possible. We believe the B-21 silhouette was formerly called the Colt target. You can purchase these targets from the National Target Company, 1255 25th Street, N.W., Washington 7, D. C., or from numerous dealers in N.R.A. shooting accessories. Hundreds of shots can be fired on one of these big targets for practice if you carefully use correct pasters after each run over the course.

Another police silhouette target that is sometimes used is the B-20 which is near a duplicate of the B-21 except it has the center scoring rings the same as the official 50-yard slow-fire target. It is frequently used for preliminary and basic combat training. Otherwise, it is not the practical target the B-21 is for our F.B.I.

Instructor Dougherty advises 25-yard target (bull's-eye) No. B-8 and centers, for the same target—B-9, are used for preliminary firing for every member of the class. These are known as Camp-Perry-Course targets. The Camp Perry Course calls for ten shots slow-fire; ten shots timed fire, divided into two five-shot strings in 20 seconds; and ten shots rapid-fire, two five-shot strings to be fired in ten seconds. This is also an excellent course. He insists they all fire this course or some of it as it affords the instructor an opportunity to analyze each individual's ability and control of the basic firearms used. The writer heartily agrees with this system.

Firearm used may vary according to how well different heads of police departments are versed on ballistics and efficiency of modern handguns. Some may be content to handicap their force with a "pip-squeak" .32 S. & W. short, or even a .32 S. & W. long in revolvers of questionable accuracy and clumsy actions, while others lean towards the ultra-powerful 4-inch barreled Smith and Wesson in .44 Magnum caliber. This modern powerhouse takes an expert to properly handle, so we will seek the happy medium which is the well known .38 Special and the .357 Magnum. The latter comes the nearest to being "the perfect" arm for serious minded law enforcement officers that is made.

Our Federal Bureau of Investigation adopted the famous .357 Magnum in both Colt Trooper and S. & W. Combat Models with 4-inch barrels. Our Pennsylvania Game Commission adopted the .357 Colt with 6-inch barrels a few years back. All of these arms leave little to be desired as far as top-notch performance is sought. They have the advantage of handling any .38 Special cartridge to perfection, with the added feature of handling the heaviest .357 cartridges (nearly twice as potent as the best .38 Special). Excellent accuracy is possible with this cartridge well beyond 200 yards.



PRELIMINARY FIRING for the F.B.I. Training Course is given with the 25-yard Camp Perry Course bull's-eye targets. Here students check their scores in this orientation exercise.

Read "THE 200-YARD REVOLVER," September issue.

Revolvers using the standard .38 Special loads are made in feather-weight models by both Colt and Smith and Wesson with 2-inch to 4-inch barrels for detectives and special agents in weights as low as 14 to 19 ounces. These are surprisingly accurate, efficient, air-weight revolvers. We have fired them over the different courses and they surprised many doubters. Fine little arms for the home. No, you may never need one of them and we hope you don't, but if you do ever need one you will not find time to read up on its use. A wad-cutter bullet out of a 14-ounce air-weight hits about as hard as it does out of a 38-ounce, 4-inch Combat Model. It can become quite a friendly equalizer.

The range needed for the F.B.I. course must be, from necessity, out-of-doors. A 100-yard rifle range with a high bank or steep hillside for a backstop is best. Perhaps, scaled down indoor targets could be used on some of the bigger indoor ranges but, to date, we know of none being used.

A day afield with a class of 15 to 30 eager law enforcement officers and our genial instructor is indeed a day's recreation. He starts with a session stressing safety at all times. Emphasis on the principles of handling all fire-arms without accidents are emphasized through the entire course.

Next comes correct handling, proper grip, breathing control and trigger squeeze. The proper sight picture, and dry practice is gone over many times until everyone is familiar with the first phases.

We have already mentioned the next step which consists of the first firing of live ammunition. This is the preliminary firing on the Camp Perry bull's-eye targets. Here each shot is analyzed as to position on the target, whether grouped or jerked wildly. If a shooter shows trigger-jerking nervousness, shutting both eyes and grabbing he is given additional attention. One finds it difficult to get this type of shooter to keep up with the class.

Next comes the first phase of shooting over the course. All shooters fire slow-fire on the silhouette B-21 target now. They take the timed course in a leisurely, slow-fire, no time limit to get them acquainted. Five shots are fired prone, at 60 yards with location of shots carefully noted. From here the class advances to 50 yards where each competitor fires five shots prone

and five shots sitting. This completed, he fires five shots from a barricade rest with his weak hand, and five shots with his strong hand. Either hand, right or left, may be your weak or strong hand. From the 50-yard range the shooter advances to 25 yards where he fires five shots kneeling, then five shots each strong and weak hand from barricade again. His last stage in practice is at 7 yards range firing from the famous F.B.I. crouch by instinct, or from the hip, ten rounds using the arm as double action five shots, then reloading five more in rapid succession—a total of 50 shots.

When the course is fired in earnest the procedure of fire is reversed. At the seven-yard range our hip-shooting hero stands ready and on whistle loads and holsters the revolver. The next whistle he draws, fires five rounds, ejects the empty cases, reloads and fires five more. The time allowed is 25 seconds. From here he advances to 60 yards, next 50, then to 25 as mentioned above. He is allowed five minutes and forty-five seconds for the forty shots at the longer ranges and different positions. This is a spectacular course where five or more well trained men are methodically shooting as though each shot may be their last one.

Instructor Dougherty succeeded in qualifying everyone entered from the Stroudsburg area. In fact, many members of the Stroudsburg Police Force and one or two of our field men scored well up in the 90's, which is excellent shooting in anyone's language. A 60 per cent score is necessary for qualification. There are many fine courses available for N.R.A. Clubs, police departments, military organizations and gun clubs to adopt for variety as well as practical value, but few can develop the handgunner's reflexes and alert confidence better than the F.B.I. Course. Our Scranton Rifle Club expects to adopt it along with the regular matches this summer. We hope it will prove interesting to all of our practical minded shooters.

Letters . . .

A Citizen's Magazine

Although I did not become a subscriber of your splendid magazine until recently, I have read every issue since 1950. The thing which struck me as being most unusual for a magazine of this caliber is that many articles are written by common, everyday people. The GAME NEWS is truly the citizen's magazine.

Leonard E. Hess
Saltsburg, Pa.

A Pleased Subscriber

GAME NEWS is "terrific!" What a magazine! Every hunter should get it.

Dick Young
Erie, Pa.

For the Sportsmen

Enclosed is my check for the renewal of my GAME NEWS subscription. I want to take this chance to say that I think you are doing a wonderful job and commend the men who put GAME NEWS together each month for the fine job they do for Pennsylvania sportsmen.

David M. Frees, Jr.
Phoenixville, Pa.

Changing Your Address?
Don't Forget GAME NEWS

The Post Office will not forward copies unless you pay extra postage and we cannot replace lost copies. SO PLEASE . . . at least six weeks before the first issue to go to the new address, send us your name, new address including postal zone, and your old address. Mail to GAME NEWS, Pennsylvania Game Commission, Harrisburg, Pa.

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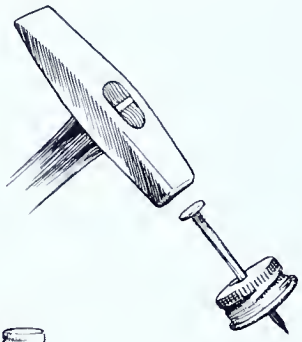
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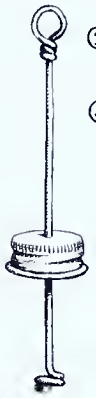
GEORGE E. CHURELLA, A READER FROM PATTON, PENNSYLVANIA, SUGGESTS THESE USES FOR

PLASTIC JUGS

FIRST, A BIRD HOUSE

① REMOVE THE CAP FROM A HALF GALLON PLASTIC JUG (THE KIND HOUSEHOLD BLEACH COMES IN), AND PUNCH A HOLE THROUGH IT WITH A NAIL.





② FORM A LOOP IN THE END OF A TEN-INCH PIECE OF WIRE AND PUSH WIRE THROUGH THE HOLE IN THE CAP.

③ BEND A SMALL LOOP ON THE LOWER END OF THE WIRE TO KEEP IT FROM PULLING OUT OF THE CAP.



④ LOCATE AND OUTLINE THE ENTRANCE HOLE (TRACING AROUND A QUARTER WILL DO FOR A WREN). CUT OUT THE HOLE WITH A SHARP KNIFE. PROCEED WITH CARE, AS THE PLASTIC CUTS VERY EASILY.

⑤ MAKE SEVERAL VERY SMALL HOLES IN THE BOTTOM FOR DRAINAGE.

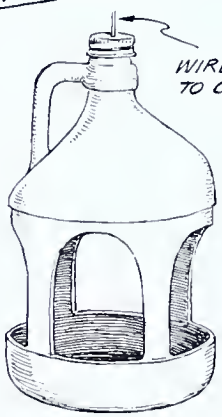
⑥ CUT A $\frac{1}{4}$" HOLE IN THE FRONT AND BACK NEAR THE BOTTOM AND INSERT A DOWELL OR TREE BRANCH FOR A PERCH. ASSEMBLE AND HANG IN A TREE.

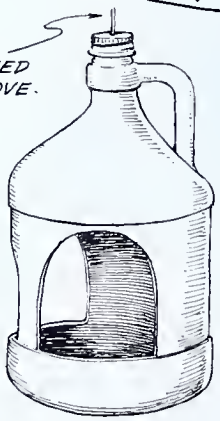


OR TRY THESE IDEAS WITH PLASTIC GALLON JUGS

WIRE HANGER FASTENED TO CAP, AS SHOWN ABOVE.

BIRD FEEDER





ROBIN NEST HOUSE

NED SMITH

Pennsylvania GAME NEWS

JUNE, 1962

TEN CENTS



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PENNSYLVANIA
GAME NEWS
George H. Harrison
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COVER: Frogs are not on the recommended diet for white-tailed deer fawns, but do rate high on their curiosity list. The peak of fawning season in Pennsylvania is late May and early June. This is also the peak of the naturenapping season (page 15) when sympathetic humans "rescue" fawns believed lost. Fawnnapping is both illegal and cruel. Leave them alone, they are NOT lost.

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EDITORIAL . . .

The ORRRC Report

HOW would you like to have the job of determining America's outdoor recreation needs forty years from now? This was the object of a three-year study, the results of which were recently submitted to the President and the Congress by the Outdoor Recreation Resources Review Commission.

Headed by Laurance Rockefeller, the Commission's job was to study today's outdoor recreation, estimate the needs forty years from now, and recommend ways to meet the huge boom in outdoor recreation that lies ahead.

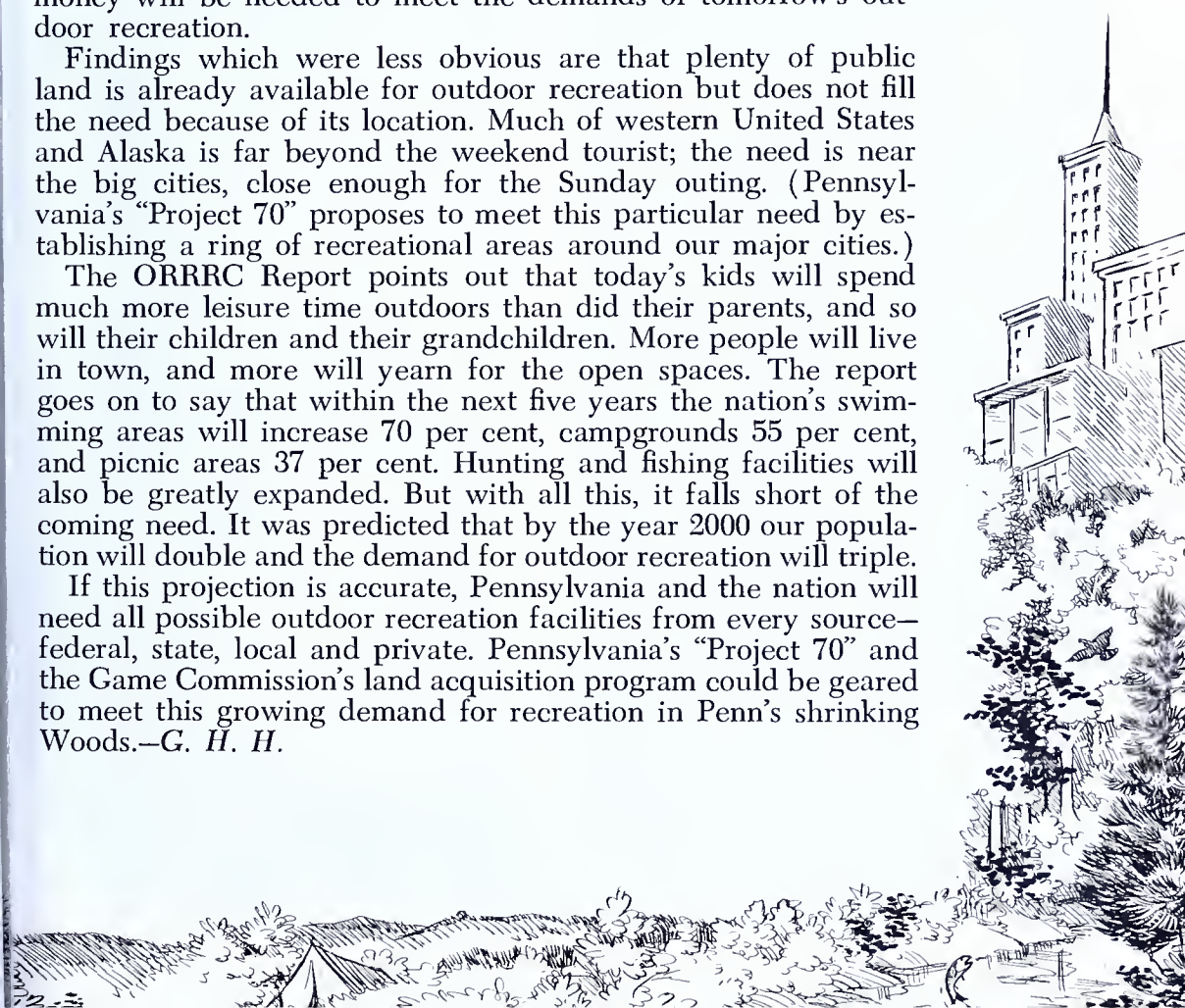
Some aspects of the ORRRC Report have been sharply criticized and their method of acquiring data has been questioned. However, all critics fully agree and support the great need for bold action in developing America's outdoor recreation facilities.

Some of the ORRRC's findings were already common knowledge. Such as: that water is the big thing in outdoor recreation, that such recreation is a major American pastime, that the simplest outdoor recreation (swimming, walking for pleasure and sightseeing) is the most popular, and that a huge amount of money will be needed to meet the demands of tomorrow's outdoor recreation.

Findings which were less obvious are that plenty of public land is already available for outdoor recreation but does not fill the need because of its location. Much of western United States and Alaska is far beyond the weekend tourist; the need is near the big cities, close enough for the Sunday outing. (Pennsylvania's "Project 70" proposes to meet this particular need by establishing a ring of recreational areas around our major cities.)

The ORRRC Report points out that today's kids will spend much more leisure time outdoors than did their parents, and so will their children and their grandchildren. More people will live in town, and more will yearn for the open spaces. The report goes on to say that within the next five years the nation's swimming areas will increase 70 per cent, campgrounds 55 per cent, and picnic areas 37 per cent. Hunting and fishing facilities will also be greatly expanded. But with all this, it falls short of the coming need. It was predicted that by the year 2000 our population will double and the demand for outdoor recreation will triple.

If this projection is accurate, Pennsylvania and the nation will need all possible outdoor recreation facilities from every source—federal, state, local and private. Pennsylvania's "Project 70" and the Game Commission's land acquisition program could be geared to meet this growing demand for recreation in Penn's shrinking Woods.—*G. H. H.*



How Can the Game Commission Hope to Provide the Best Hunting on Only 5c of the Hunter's Dollar?...

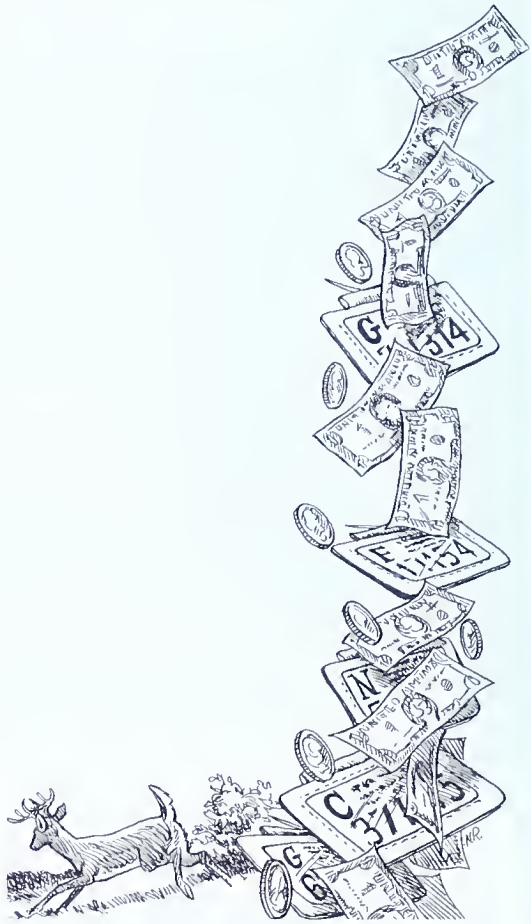
Let's Face Facts

By M. J. Golden
Executive Director

PENNSYLVANIA sportsmen enjoy some of the best and most diversified hunting in the nation. I am certain that you—our sportsmen—want to see Pennsylvania continue as the leading eastern deer state, as the leading eastern wild turkey state and as a leader in the production and harvest of a variety of other species of both big and small game. The future of your sport rests on your, the participants', willingness to invest more in the management of the wildlife resources which are basic to and provide your sport. I believe that you will want to pay the way now to correct an immediate deficiency and to assure as bright a future as possible for wildlife resources for our children, grandchildren, and future generations.

In 1960 the U. S. Bureau of the Census completed another National Survey of Fishing and Hunting. This was the second nationwide economic survey of sport fishing and hunting; it revealed that *only 5 per cent* of the money spent by hunters went for licenses. Actually, since hunting licenses cost less in Pennsylvania than in most other states, less than 5 per cent of the money spent by hunters goes for licenses here. Thus only a small share of the hunters' expenditures comes to the agency which is charged with managing the resources to provide the hunting. Obviously the managing agency *should and must* have a larger share of the "pot." Can we hope to provide the desired hunting opportunities and manage and perpetuate the resources which support hunting on less than 5 cents out of the hunter's dollar?

I know you are all well aware of the value of the dollar today as contrasted to 1949 when the present hunting license fee was established. Recall, if you will, the costs of a car, medical care, fuel, and forms of recreation other than hunting in 1949 and compare them to today's costs. The 1962



An address by Executive Director M. J. Golden to the Pennsylvania Federation of Sportsmen's Clubs Convention, March 30, 1962, in Harrisburg.

value of our dollar as contrasted to the early base year of 1938 dropped to 47 cents; a large part of this drop took place since the $3.15 license fee became effective in 1949. Thus for purely economic reasons the Commission's real income per hunter has declined markedly.

Value Down—Costs Up

While dollar value declined the Commission faced rising costs. As examples: hourly rates for food and cover employes were from $.85 to $1.26 per hour in 1949. Today these rates are $1.41 to $2.79. Some comparisons of salaries are:

	1949	*1962*
Game Protector	$2,496-$3,420	$4,329-$5,803
Clerk-Stenographer	$1,572	$3,560
Advanced Clerk-Stenographer	2,028	4,551

Despite an increase of only 11.3 per cent from 283 to 315 in the number of salaried employes from 1949 to 1962 the annual salaried payroll increased by 75 per cent from $882,000 to $1,542,000. The costs of land, equipment, supplies, materials, printing, postage and actually all items have increased.

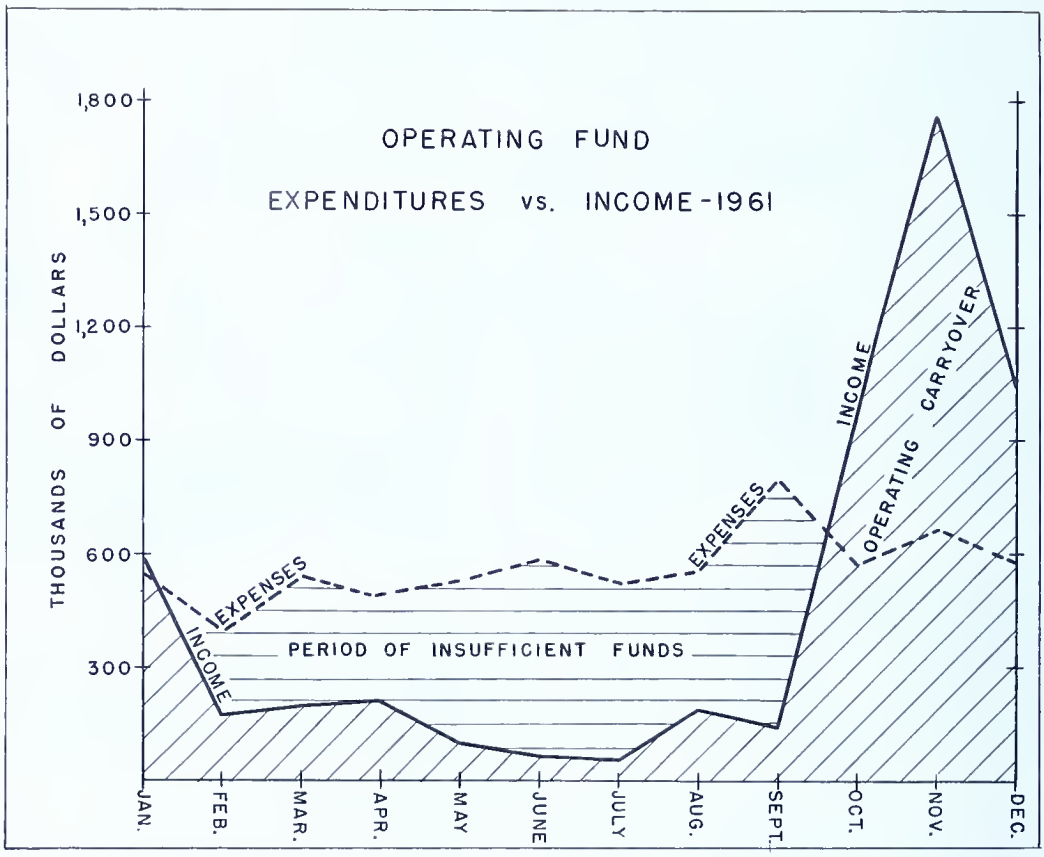
Expanded Program

During this period of rising costs, the Commission expanded programs, initiated new programs and generally increased its services to the public. In 1949 the Cooperative Farm-Game Program embraced about 750,000 acres; today there are over 1,255,600 acres in this program. There were 876,200 acres of State Game Lands in 1949; today's acreage is about 970,000. Development and management of State Game Lands has been expanded in this period. The Safety Zone Program was started several years ago and embraced 1,145,468 acres in 1961. These are just a few examples of increased activities which should be continued and further expanded.

In order to clarify any misunderstanding, the Game Commission has no reserve or surplus funds. Apparently some persons in reviewing the Commission's financial statements have misinterpreted them. While the statement at the end of a fiscal year includes a sizable cash balance, there are vouchers payable and encumbrances charged against this balance which greatly reduce it. Also, it is imperative to recognize that the bulk of the Commission's income is received during the months of October, November, December and January and the period February through September is lean. **Therefore, adequate funds must be held at the end of the fiscal year for working capital to operate during the months of low income.** As an example, during June, July, August and September, 1961, total receipts amounted to only $451,766.71 but expenditures totaled $2,470,299.53. It should be obvious that adequate working capital funds must be available to cover the low income period.



"ONLY A SMALL SHARE of the hunters' expenditures comes to the agency which is charged with managing the resources to provide the hunting. Obviously the managing agency should and must have a larger share of the 'pot.' "



The effects of declining income and rising costs are reflected in past and projected balances in the Game Fund as follows:

Balance May 31, 1959	$ 4,037,974
Balance May 31, 1961	$ 3,276,140
Estimated Balance June 30, 1962	$ 1,997,024
Estimated Balance June 30, 1963	$ 882,847

Obviously the estimated beginning balance on July 1, 1963, of $882,847 is incompatible. As previously pointed out, working capital for the low income period must be available. Therefore, savings in the present and 1962-63 budgets must be made to insure adequate working capital on July 1, 1963. Steps have already been taken to bring about these savings. The estimated funds, $5,332,847, available for the 1963-64 budget which we are now preparing, are more than one million dollars short of the two previous budgets. However, we are confident you will see fit to make available additional income from increased hunting license fees during the 1963-64 fiscal period so that programs and progress can continue.

A Revenue Decline

Along with increased costs, we are presently experiencing a decline in revenue. A part of this stems from reduced Pittman-Robertson allocations, and decreases in minor receipts. Resident license sales have peaked and a slight decline is expected for this fiscal year. A realistic consideration of hunting license sales in Pennsylvania could indicate no other course than a leveling and probable decline. Regardless of the efforts of the Commission, this is one of the penalties of modern civilization and economics. The loss of hunting lands to urbanization, to city dwellers moving to the

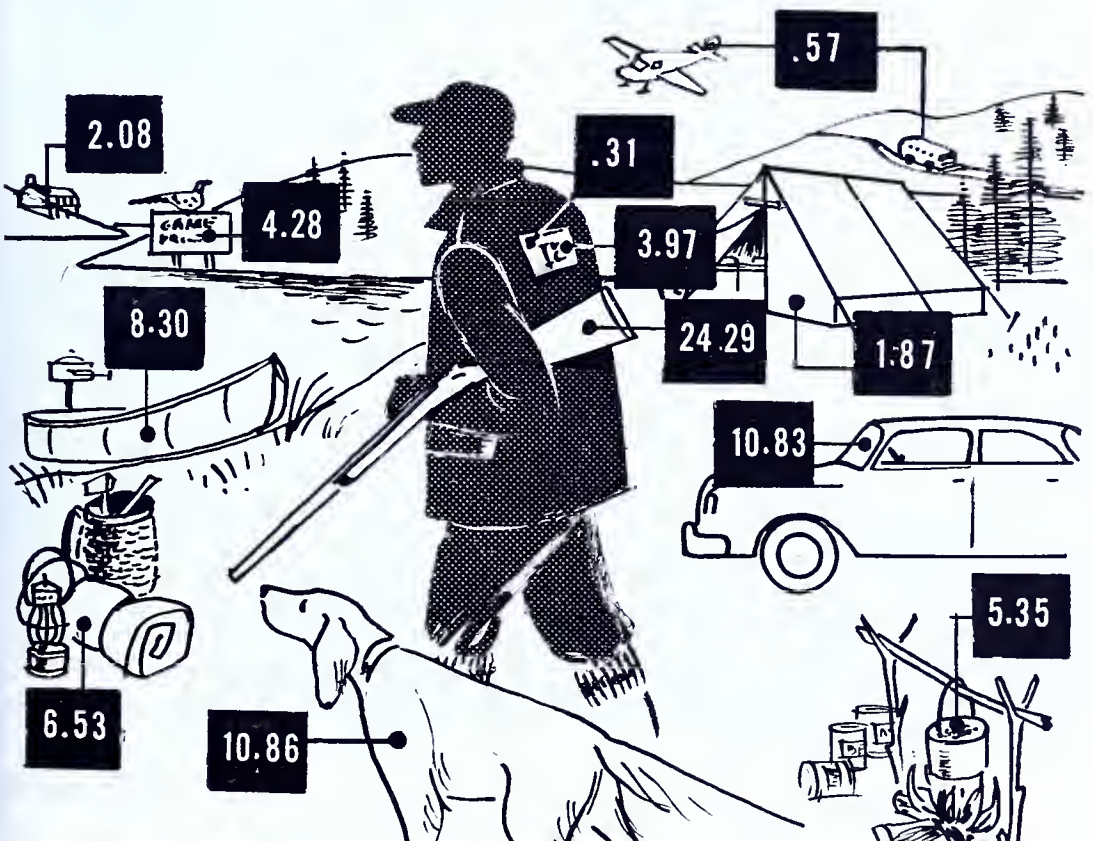
country, to highways, industries, etc., has been tremendous—more than most of us realize. Land use competition is keen in most areas, and game is seldom a cash crop to the landowner. I point this out because it will take more effort in the future to keep lands open to public hunting and to meet the demand for hunting through intensive development and other means. For this reason, I should caution any who would expect an increased license fee to bring a marked improvement in hunting, that this can hardly happen. True, hunting may improve in local areas as a result of Commission-sportsman efforts, but improvement in the overall, general picture is doubtful. Again, this is no fault of the Commission, the sportsman, or any specific group, but can be attributed to people, expanding population and civilization. It is rather apparent that we will face a continual struggle to maintain some of what we now enjoy. Therefore, I would again urge that to keep pace with competition and maintain your sport that you realistically consider and support an increase in the hunting license fee.

Compare With Other Sports

As compared to many other participant sports, the hunting license fees are low. Consider the fees for bowling, golf, swimming, etc. Consider the costs of spectator sports. Truly the hunting license has been a real bargain in Pennsylvania.

In order to continue programs and activities at a level you as sportsmen apparently feel desirable, including an active land acquisition program, a minimum annual income of 7 million dollars is required. On the basis of increasing the nonresident license fee to $25, each resident license would have to return $5 to the Commission. Should an expansion of programs be desired embracing stepped up land

TOTAL OF $79.34 was spent by the average hunter in connection with his sport in 1960 throughout the country. Notice that the average hunter only spent $3.97 for his license while he spent $24.29 for hunting equipment and $10.86 for dogs.





PGC Photo by Bob Parlaman

IN ADDITION to this nice buck, the $3.15 hunting license also entitled this hunter to a bear, a turkey, and all the small game hunting offered in Pennsylvania. Game Commissioner H. L. Buchanan, of Franklin, congratulates Walter J. Gawrys, of Oil City, for the largest "rack" to go through the voluntary check station near Franklin last fall.

acquisition, more intensive development of lands, including cooperative work on State Forest lands and increased cutting on State Game Lands, doubling the Cooperative Farm-Game Program, increasing the Safety Zone Program, increasing the production at the Howard Nursery, increased services in the line of exhibits, movies, etc., which you desire, better training of personnel and other improvements in programs, the minimum annual income required is 9.6 million. While that figure may sound fantastic, with such an income your Game Commission could really set to work the machinery to accomplish the kind of job so many of you sportsmen desire. To achieve such an income would require, in addition to a $25 nonresident license fee, a resident license fee of $7.50. Since such a fee is more than twice the present fee, it cannot be realistically considered at this time.

Results of our survey of hunter interest show that the majority of our hunters seek both small and big game. Therefore, it appears that a simple license structure such as presently employed is most practical.

I know that you are interested in the continuation of Game Commission programs and that you will support a realistic increase in the hunting license fees when the proposal is made.

PORTRAITS OF THE SEASON

June

IN JUNE thunderstorms roll out of the valley, leaving it fogged in vapor and jeweled by the sun that mirrors itself in every trembling drop. Grass grows higher along the creek as the mounting heat draws out life on every hand. Spider webs pearl the dawn and jeweled damsel flies race along the shore on narrow wings. The water snake drapes his frog-heavy length over the alders and soaks up the elemental heat of the sun. The fawns are dropped and the slick, all-jointed creatures totter under the crashing tongue of the doe as she licks them dry. The woodchuck young are already on their own, filling their bellies on the meadow, but the red fox still has much to teach her milk-toothed brood. Sunfish spawn in the shallows, mouthing annoying pebbles out of their saucer-shaped nests, bristling in scaly fury at would-be attackers. Wrens bubble through the woods. The song sparrow has settled down to the business of a brood, while beneath the ground the twitching shrew is suckling its pink litter. Young chipmunks come up to see the world, and see—the year's bear cubs tumbling in play. There is much of interest in a June woods.—*John Guilday.*



WALKIN' SHOES

By NED SMITH

Wild Berries for the Asking

1. **Wild strawberries are better flavored than cultivated ones. True or false?**
2. **Are blueberries and huckleberries one and the same?**
3. **What color are wild mulberries?**
4. **Are Juneberries edible?**
5. **What edible wild berry plant produces beautiful rose-purple flowers that resemble wild roses?**
6. **What common berry grows in large, flat-topped clusters?**
7. **How does the dewberry differ from the blackberry?**
8. **Are red raspberries native to Pennsylvania?**

BOTANISTS, whose interest in such things is more scientific than gastronomic, insist that many of the small fruits we call "berries" are not berries at all. Juneberries are pomes, they say, and raspberries and blackberries are aggregates of druplets. Well, such technical niceties are good to know, I suppose, but for the sake of simplicity let's just call 'em all berries—in this article, at least.

Here in the Keystone State we are blessed with an abundance and a variety of these wild, edible fruits. While some are not so agreeably flavored most of the common kinds are delicious eating *au naturel,* and practically all of them make first rate pies, jellies, jams, wines, etc. What's more, they are free for the asking. No matter where you live there are wild berries of one kind or another nearby, and most of them will rot on the bushes. Obtaining permission from the landowner to pick them is usually a mere matter of asking, and he'll be tickled pink if you offer to pick some for him, too.

Here are a few tips on picking and utilizing berries: Be selective. Thumb-sized blackberries and thimble-sized wild strawberries don't grow in just any old spot, but by scouting around you'll discover that some places produce better berries than others.

If you want to eat them raw, berries should be allowed to ripen fully before picking, but for cooking purposes most are better a bit short of ripe. This is particularly important when making jelly, for slightly unripe berries "jell" better.

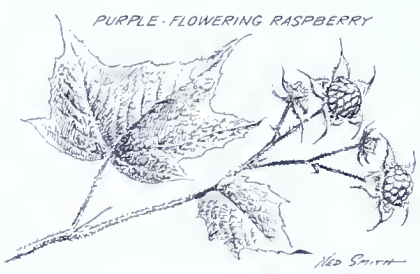
Pick them as cleanly as possible, for too much washing or soaking spoils the flavor of many berries. If that sounds like an old wives' tale try eating an unwashed wild strawberry, followed immediately by a washed one. Which was the sweeter? Nevertheless, it must be admitted that covering berries with cold water and stirring them gently will bring to the surface











any insect stowaways that may have ridden home in your pail and make the berries more acceptable to sophisticated palates.

Blueberries and huckleberries can be quickly separated from the inevitable twigs, loose stems, and other debris by pouring them into an old blanket and allowing them to roll into a receptacle at the other end. The trash will cling to the blanket, from which it can later be shaken and brushed.

Wild strawberries will retain their flavor and remain in better condition if they are not capped until rinsed and drained.

When gathering elderberries the entire cluster is snipped off intact and the berries stripped off at home after washing.

Hanging your berry pail over your belt with an S-shaped wire hook is a good stunt that leaves both hands free for action.

Descriptions of all the small wild fruits commonly called "berries" would fill far too many pages, so this article is restricted to a number of common edible species that are readily obtainable and easily utilized. At that, trying only those listed on the following pages would make a mighty busy, albeit enjoyable summer.

Wild Strawberry

This popular favorite is the earliest and, in the opinion of many, the most delectable of all wild or cultivated berries. It resembles the cultivated variety, but the fruit is smaller, sweeter, more fragrant, and often teardrop-shaped. It grows in old fields and along roadsides, attaining largest size in moister, more fertile locations. In dry, stony soil the fruits are so small they are often hardly worth picking.

Wild strawberries can be used in any way you'd use the larger cultivated ones. They make outstanding preserves and elevate shortcake to new heights.

Don't be misled by the Indian strawberry, a shade-loving plant that bears a berry resembling the real thing, but dotted with numerous seeds that *protrude* from the surface. It is as insipid as the wild strawberry is flavorful.

Blueberries and Huckleberries

Although blueberries are more common than huckleberries until recently most Pennsylvanians called them all "huckleberries." They are similar, of course, both being globular, fleshy fruits with a star-shaped cluster of calyx lobe remnants on one end. The chief difference is that the blueberry contains numerous very small seeds, while the huckleberry contains but ten rather large seeds. Too, practically all blueberries are coated with a pale blue bloom, or coating, while most huckleberries are shiny black. As to flavor, they both run the gamut from excellent to blah! Blueberries are usually sweeter, huckleberries spicier —take your pick.

The best blueberries are probably the low bush species, one of which bears early and one late in the season. They are common in the hilly and mountainous sections of the state, growing in dry, sandy or stony acid soil. Another popular blueberry is the highbush blueberry, commonly called the "swamp huckleberry" in Pennsylvania. As the colloquial names suggest, it is a tall plant, frequently attaining a height of eight or ten feet, and grows in bogs and swamps.

The black huckleberry, the common huckleberry species found throughout the state, has delicious lustrous black fruit. It is particularly plentiful in dry clearings and old burns. The dangleberry, a related species, bears large black fruits that are usually more or less coated with a pale bloom.

If you don't already know, both blueberries and huckleberries can be eaten plain, with sugar and cream, on cereal, in pies, puddings, jelly, or any number of other delectable ways.

Wild Black Raspberry

A stand of black raspberries can be distinguished at a distance by the slender, gracefully arching dark purple canes that are whitened by a chalky bloom, and by the leaves, which are a brighter green than those of the similar blackberry. The plants often grow in patches in fence-corners, pastures, and woodland clearings—never in dense shade, but often in partially shaded situations.

Ripening shortly after the strawberries, black raspberries are nearly globular—red at first, black with a whitish bloom when fully ripe. They are pleasantly mild flavored, and as delicious uncooked as they are in pies, jam, and pudding.

Wild Red Raspberry

This delectable berry enjoys a more northern distribution than the preceding species, and is found in clearings and sunny spots throughout the mountainous parts of Pennsylvania. Its canes are round, russet to reddish-brown in color, and thickly coated with fine, bristly spines that are seldom stout enough to be called thorns. The leaves are yellowish-green in color.

Sweet and mild in flavor, the nearly globular red berries are quite different in flavor from their black cousins. They can be used in the same manner, and are one of the best of all wild berries for pie filling.

Purple-Flowering Raspberry

Before I am attacked by those of you who have tried this berry and found it to be as dry and tasteless as last year's corncobs, let me say that these berries vary immensely in quality. Most are not worth picking, but if you find bushes bearing large, fleshy-looking fruits by all means sample them. They can be very good eating. We've never experimented with using them in jelly, pies, or the like, as they are seldom sufficiently plentiful, but for a refreshing nibble on a hot after-

noon the better specimens are mighty good.

This plant, often called the "thimbleberry," likes moist mountain ravines in company with striped maples and hemlocks. One of our most attractive native shrubs, it is a medium-sized plant with pale stems and very hairy reddish twigs. The "pebble-grain" leaves are maple-shaped with long, pointed tips on each lobe. At blossoming time it is at its best, adorned with large rose-purple flowers that resemble deeply-colored wild roses.

Blackberry

While there are a number of blackberries native to Pennsylvania they resemble one another quite closely. Most of them consist of large, robust canes that are sometimes fluted or furrowed, and leaves that are darker than those of the raspberries and downy underneath. As berry pickers can attest, the entire plant (with the exception of one or two species) is armed with sharp, recurved thorns that have an unrelenting affinity for shirt-sleeves, backs of necks, and seats of pants. They are abundant in fence rows, sunny woodland borders, gullies, and abandoned fields.

Typical berries are thimble-shaped, black and shiny, with no hint of a bloom. Although they vary greatly in quality the better ones are fine eating, although they have a tendency to be stronger flavored and a bit more sour than black raspberries. They make unexcelled jelly, and mighty good pies, pudding, and other dishes — if you don't mind the seeds.

Dewberry

Most upland game hunters are familiar with the dewberry, that inhabitant of abandoned fields whose trailing, briar-studded stems trip the unwary gunner and rasp the useful life out of hunting boots long before their time. Far fewer outdoorsmen ever return in summertime to exact retribution in the form of berries. It's a pity, for although they are on the small side, dewberries are often the equal of good blackberries in flavor, and can be used in the same manner.

If you haven't already made their acquaintance you'll find them growing chiefly in old fields and orchards. Their slender, prostrate stems and short, ascending branches often nearly cover the ground. The leaves resemble those of the blackberries, but unlike the latter are not noticeably downy beneath.

Common Elder

Elder bushes are common along fence rows and roadsides, but attain their best growth and produce the largest berries in the bottomlands. The woody, but brittle, stems are stuffed with an exceptionally large pith. The thin outer bark is pale grayish brown and the inner bark bright green. In midsummer large, flat-topped clusters of flowers appear, and these are replaced by small, round, purplish-black berries in late August and September. Although the latter are too bitter to be greatly appreciated by anything but catbirds and small boys they can be converted into jelly that is absolutely out of this world. Elderberry pies are rural favorites, too, but making them is an art—and nearly a lost art, I might add. Dried berries make better pies than fresh or canned ones, and too much filling will prove too rich for most tastes.

Juneberry

One of the first trees to bear conspicuous blossoms in the spring is the Juneberry, or shadbush. The location of these small trees, with their smooth gray bark and lacy white blossoms, should be recorded for future reference, for in fruiting season they are hard to spot.

In July they bear small, sweet berries that turn from red to purple with a whitish bloom when dead ripe. They contain a number of small seeds and are tipped with a five-parted remnant

of the calyx. Like many other wild berries, Juneberries vary in quality from tree to tree and species to species, but good ones are truly fine eating. They also make up into good pies that are similar in flavor to sweet cherry pies. True, they are seedy, but the seeds are not hard and not nearly so objectionable as those of the esteemed blackberry. Years ago Juneberries were utilized more extensively than they are today—due, I suppose, to modern man's aversion to anything that takes time. And filling a bucket with Juneberries does take time.

Red Mulberry

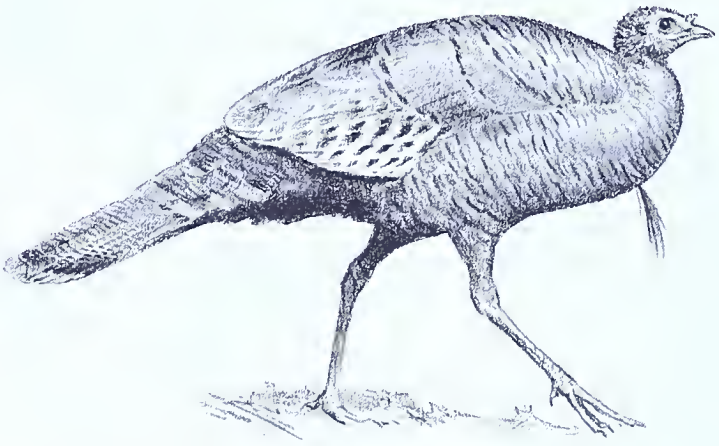
The red mulberry is usually found growing in moist soil along forest edges, in old fence rows, or in open woodlands. It is a small to medium-sized tree with reddish-brown furrowed bark, a short trunk, and a broad crown. The leaves are variable, usually ovate or heart-shaped, but frequently lobed. They are characteristically rough in texture on the upper side.

The sweet fruits are dark red to purple-black in color, and roughly cylindrical in shape. They are eaten raw or made into jam, jelly, pies, or marmalade, and many a Pennsylvania farmhouse boasts a mulberry tree on the premises that has been maintained for just such purposes.

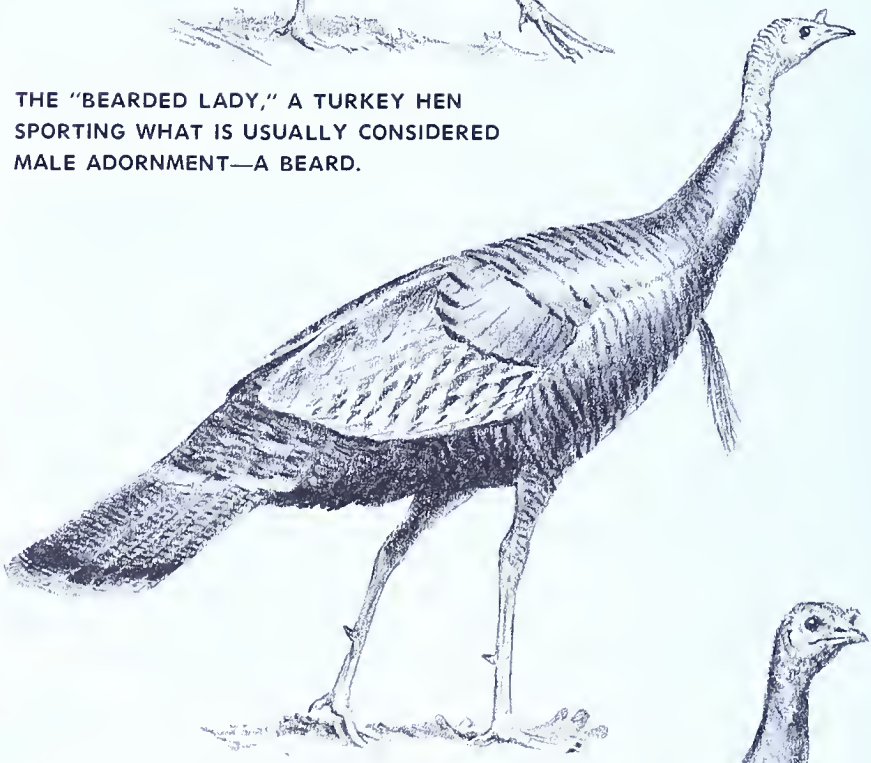


ANSWERS TO QUESTIONS

1. True.
2. No. Blueberries contain numerous very small seeds; huckleberries contain ten rather large ones.
3. Dark red to purple-black. The white ones are an introduced species.
4. Yes.
5. Purple-flowering raspberry.
6. Elderberry.
7. Its stems are prostrate, rather than erect.
8. Yes. The cultivated red raspberry is an introduced relative.



THE "BEARDED LADY," A TURKEY HEN SPORTING WHAT IS USUALLY CONSIDERED MALE ADORNMENT—A BEARD.



LONG BEARDS ARE STANDARD EQUIPMENT ON OLD GOBBLERS LIKE THE ONE ABOVE, BUT TYPICAL HENS ARE "CLEAN SHAVEN."



Ned Smith

A Circus Attraction of the Bird World

THE BEARDED LADY

By Jerry Wuntz
Game Biologist

LEST the title be misleading, we are referring to the mixed up lady of birddom, rather than to her sideshow counterpart. Each hunting season Game Protectors examine or receive reports of bearded hen turkeys, but as with antlered does, these are relatively rare. Leon Keiser, Superintendent of the State Wild Turkey Farm, has noticed that this phenomenon seldom occurs among the young adult breeders at the farm, but is more prevalent in hens over two or three years old.

We have generally thought bearded hens occurred sparingly and very scattered throughout the Pennsylvania turkey range, but an instance during the past winter indicates they may occur in greater numbers in certain parts of the state than presupposed. Game Protector John Putnam, of McKean County, reported a bearded hen regularly visited one of the feeders in his district. Since trapping and tagging of turkeys for population and movement studies was contemplated for this area, a cannon projected net trap was set adjacent to the feeder. Observation of the feeder and trap area from the concealment of a nearby blind indicated that four or possibly five different flocks of turkeys visited the feeder daily. Hence it was possible to obtain basic information essential to a turkey management program about the size of the winter flock, sex and age composition of the flocks, feeding activity and social behavior.

When one flock of nine turkeys approached the feeder, we were surprised to see that not one, but two hens sported rather long beards. However, as is usually the case in hens, the beards were rather sparse compared to the heavier beards of the toms. After an hour of watching this flock one of the two bearded hens, with two young hens and four young toms, entered the trap area. To capture turkeys with a cannon fired net, they must be well within its firing range; otherwise these deceptively cumbersome looking big birds will literally "out run the shot" and escape. At the proper moment the cannons were fired and we had our bearded lady, along with the two young hens. The hen sported a beard 6¼ inches long. The big surprise came when we discovered that one of the young hens, about nine months old, had grown a 2½-inch beard. These birds were banded with both aluminum numbered bands and bright yellow plastic bands and released at the trap site. The colored plastic bands will aid in determining future movements and seasonal range requirements of these birds.

Found Elsewhere

At another McKean County feeder we observed that one of the 22 hens there carried a six- to seven-inch beard. Perhaps some of the young hens in this group were also bearded, but we could not see any. In all four cases encountered, these birds had normal plumage, small body size, short leg length and other characteristics of female turkeys. None had spurs, although hens with spurs have also been reported in a few cases.

The actual cause of this unusually long beard growth, beyond the normal rudimentary growth of this modified feather among hens, is unknown. But it can be speculated that such beard growth in hens is triggered by an androgenic or male hormone produced in glands of certain hens. Experimental applications of these hormones have induced full development of male characteristics in females of other animals. However, the occurrence of beardism in three out of four hens in one flock also suggests heredity. Whether this will increase or decline among turkeys in this McKean County area is anybody's guess.

Actually there is no practical value in trying to breed this trait into our turkeys, except that we turkey hunters would have a bonus trophy of the hunt. So don't be too disappointed if you find that the bearded bird you skillfully called up and shot was not the old tom that has eluded you in seasons past, but only a bearded lady. Hen or gobbler, beard or no beard, any turkey is a well earned trophy.



PREPARED FOOD LURES MODERN DAY RABBITS

"It appears that Allegheny County rabbits prefer a prepared food," says Game Protector George Szilvasi in reporting: "Last winter, box trapping agents in the Pittsburgh area experimented with different baits and discovered that the one which attracted the most cottontails was a mixture of applesauce and salt."

BOOK NOTES...

Audubon and His Journals

In 1897, Charles Scribner's Sons published that legendary work "Audubon and His Journals" by John James Audubon and edited by his granddaughter, Maria Audubon. Recently, the Dover Publication, Inc., of New York, reprinted this original edition in paperbound form. It is an unabridged and unaltered republication of the original work. It comes in two volumes, each costing $2. You may recall that "Audubon and His Journals" is more than just a monument to the great American naturalist and first painter of American birds. It is also a collection of fascinating accounts of Europe and America in the early 1800's through the eyes of a man who saw everything with an unaffected simplicity and originality. The volumes also include the "Episodes" which was omitted from the letterpress edition of Audubon's "Ornithological Studies" to save printing costs. The two volumes contain over 1,000 pages of printing and line cut (black and white) illustrations.



Photo by Leonard Lee Rue

VICTIMS OF MOST NATURENAPPING cases are young deer fawns like this baby whitetail. In most cases, people find them just like this; they look around for the doe, don't see her and then assume that he is lost and will die. Most doe deer will seek cover when danger approaches. The fawn may be too young to follow and he thus becomes a potential victim of naturenapping.

NATURENAPPING

By George W. "Heap" Alexander

KIDNAPPING is a word that has long been in use and understood by everyone. There are severe federal penalties for a kidnapper. A relatively new addition to our vocabulary is the word "dognapping." This word came into recent use because of considerable stealing of dogs throughout the country. Dognapping also carries many penalties.

For want of a better word, or at least a known and used word, "naturenapping" is the word deemed fitting for the problem to be presented here.

Naturenapping, in most instances, is also unlawful — and a naturenapper can be penalized.

What is naturenapping? It is simply the taking away of young animals or birds from their mother, and attempting to tame them or make pets of them, away from natural environment and under unnatural conditions. Unlike the acts of kidnapping or dognapping this act, in most cases, is done unthinkingly and in a mistaken manner of mercy. He who naturenaps invariably does so thinking he is befriending some poor lost young animal or bird. Most of the time the person is making a mistake. Harm, often death, is the result.

It Happens Every Spring

Because spring is the time when most wild creatures are born or hatched, it is this time of the year such activity takes place. Many a parent of young children, in the next few months, will be confronted with the problem of what to do with a squealing, frightened baby rabbit, or a fluttering, just out of the nest bird, that their child proudly brings to the house. In all fairness, the child can't be scolded for what he or she has done. Such acts come naturally and have gone on for years. The child actually thinks he is being kind.

Here, however, is a fine time for a firsthand lesson in conservation, by helping return the bird or animal, together with an explanation of how a much-worried mother bird or animal awaits this return. A talk to the child, before such an affair happens, seems appropriate; an explanation, if such an affair happens, is necessary.

He Learned the Hard Way

A fellow recently told me of learning about naturenapping the hard way. As a kid, walking back to town from Stoney Lonesome, along the New Bethlehem-Clarion Road, he found a nest of young rabbits. Like most kids, and not realizing the facts, he pocketed and carried the newly born cottontails to his home. Proudly presenting his prized find for family inspection upon arrival home, he was not only told the facts of rabbit life by his dad, but was instructed to return the baby rabbits at once. An already tired boy made the return trip, again by leg power, and not horsepower under a hood.

Fawnnapping Most Common

Probably the most common form of naturenapping in many sections of Pennsylvania is the picking up of new-born fawns. Actually the picking up is often done after some chasing has taken place. In this type of tampering with nature, the person guilty is, more times than not, an adult. An adult who should know better, and often does.

Granting that there is probably no prettier or more helpless looking creature in nature than a wide-eyed, wobbly-legged, white-spotted baby deer; and also granting that on rare occasions, such as the mother doe being killed by a car, there are some orphan fawns; this handling and taking of fawns is naturenapping at low ebb. Even though it appears the fawn is lost, its whereabouts are invariably well known by the mother. Let the little fellow alone. The mother will not only return in due time, but will provide for it as nature intended. Remember, it is not only inhumane to molest a fawn, it is also illegal!

Hard on Ground Nesters

Many songbirds and most game birds nest on the ground. A person finding such nest should in no way molest it. Get away from it or go around it. Some birds, such as grouse and wild turkeys, have been known to abandon their nests because of too much nearby activity. Many song and game mother birds will fly off their nests, or away from newly hatched young, and feign a broken wing, in an endeavor to lead an intruder away. Even if you, as an intruder, are well aware of such acting



Photo by Leonard Lee Rue

A RARE SIGHT LIKE THIS would discourage naturenapping. However, fawns of this age are usually found alone, the mother a short distance away in hiding.

on the part of the mother bird, why not play dumb, and do as she hopes you do, follow her? It might be an interesting experience to see how far such well acted make-believe is carried on, and to witness the delight of the pretending crippled mother when after she has you well away from the trouble spot, she takes off. You not only will have avoided possible tramping on eggs or baby birds, but possibly you have inflated the ego of one mother bird.

After all, who would argue that mother birds, with daily worry of hawks, owls, foxes, skunks, house cats, weather and man, may not be in need of a little ego inflating.

Naturenapping can be eliminated to a great degree if we instruct our children about the harm that comes from taking young birds and animals out of their environment. It will help solve the problem if we educate our friends who are unaware of the facts. Cars on the highways will take high enough toll of our wildlife this spring, without people in the woods and fields adding to the loss.



Penn's Woods Yielded Some of the Finest . . .

Wild Ginseng—

By Wilbert Nathan Savage

THE time of the event: 1716; and it came about strictly by chance. No one had anticipated the fabulous find, but suddenly there it was—stretching from temperate eastern Canada to the Carolinas—a multi-million-dollar wild root crop begging to be harvested! Ginseng, that bewitching nugget of the root world had been discovered in North America.

A Canadian missionary working among Iroquois Indians had earlier read an account of ginseng used in China, and was fascinated by a drawing and description of the plant and its valuable root. He believed that he had seen such a form of vegetation near Montreal. A root specimen and

a letter were addressed to an acquaintance in China. Six anxious months dragged by. Then this exciting message came: "Yes, the root sample definitely is ginseng and the quality grades out very well . . . it should find a ready market here. . . ."

The note also contained brief marketing advice, and with all possible haste a "test" shipment of ginseng roots was dug, washed, dried, and shipped on a storied "slow boat" to China. And slow it was indeed—both going and coming. But a long period of eager waiting finally bore fruit, and liberal payment arrived to cover the shipment. It seemed too good to be true—five dollars a pound for plentiful, easy-to-find roots!

Quick as a wink a trading group known as "Company of the Indies" mushroomed into being. It falsely claimed to have an exclusive license for shipping ginseng, and carefully kept all records of trade under lock and key. Pleasing to the Company was

The Royal Root

the fact that for many decades to come it was to enjoy a full-bloom monopoly in the 'seng trade, with all diggers being forbidden to talk to Company employes. But finally a strange set of circumstances—a virtual ginseng scandal—focused the spotlight of demand southward to New England, New York, Pennsylvania, and other states. And Pennsylvania was to have the distinction of producing some of the finest wild 'seng ever taken from U. S. soil.

A "splurge" demand for Canadian ginseng started the whole thing. The Company, which had paid its diggers as little as 35c per pound for dry 'seng and thus realized more than 1,500 per cent profit, now offered a bonus for fast action. It worked. In record time hundreds of pounds of ginseng were ready for the drying racks. But this natural outdoor sun-and-air method of drying involved a snail's-pace process, and the urgency of demand was more than the greedy Company could bear. Despite the fact that forced drying was absolutely taboo, the risk was approved and—alas!—thousands of dollars worth of choice-grade green 'seng went into crude ovens. It was ready for removal in less than twenty-four hours—a sorry-looking mess bearing telltale signs of over-rapid dehydration. But the impatient shippers hurrahed the hurry-up scheme and off went the scorched 'seng to China in a heedless and unwise gamble against perils of the likely outcome.

And peril it turned out to be for the ginseng market! The Chinese were furiously indignant over the inferior shipment and the market approached total collapse. What the Company had thought of as "slow-witted Oriental traders" turned out to be some of the world's most able bargainers. Ginseng exports from Canada in 1752 wound up totaling $6,500 compared with more than $100,000 in 1751!

Memory of the unsavory incident was to serve as a primer for the "caution pump" among Chinese 'seng merchants for a long time to come—a bleak period that spelled the end of "Company of the Indies," but the beginning of a very wary opening to 'seng trade for the United States. Actually, full recovery of the market was not to occur for more than 100 years! The painstaking climb to record shipments reached its zenith in 1858. In that year nearly 350,000 pounds of dry wild ginseng left this country bound for markets in the land of the sampan and the Great Wall. Trust of the Occidental had been fully restored—the 'seng business was booming!

With summer dreams of alluring wealth running high, thousands of American ginseng diggers took to the hills, and Pennsylvania supplied its share. Those who didn't know how to



USDA Photo

GINSENG IS A COMMON LOOKING plant with a most valuable root. The flower and seed pods are shown here along with the root and leaves. Roots have been known to reach the age of 90 years, but they are not worth digging until they are at least six to nine years old.

recognize the 'seng plant soon learned. Why, it was almost like a story-book adventure—this strange new way of earning money—and sometimes entire families went on "ginseng frolics," bringing back cartloads of the valuable root. But soon that old bugaboo —over-supply — started to rear its threatening head. It put a sharp crimp in ginseng prices, sending them skidding to the bottom. They stayed there for nearly a quarter of a century. All this notwithstanding, 'seng hunters slowed their pace but little. They spent the warm months roving for 'seng roots of all sizes, totally blind to the simplest definition of the word CONSERVATION. Roots taken before the plant's seed berries ripened in the fall prevented re-seeding of soil where the plant stood, but no heed was accorded this provident law of nature. The if-I-don't-dig-every-root-I-find-someone-else-will philosophy ran rampant and slowly the shadow of death was cast over the goose that was laying golden eggs. By 1905 prophetic handwriting was beginning to appear on the wall.

Wild Canadian ginseng already had become fairly scarce, and the same situation was beginning to take shape in the United States. More and more remote became the areas where searches for the root were doggedly made. Gone were the great "stands" of 'seng growing thick as May apples, with some roots of unbelievable size bulging the dark earth and just waiting to be dug. The uneasy hint of scarcity was in the air, a sure stimulant to lagging prices. Dealers begged for increased 'seng supplies as the charming root rocketed in value to a new market high. Competition in buying crackled among dealers, with some paying such high prices that they went bankrupt. A single dealer bought over 130,000 pounds of dry 'seng in one year, receiving 5,000 pounds of roots from one party! The doom of wild ginseng was sealed! But even with this unfortunate loss poised as inevitable, an unexpected attitude among diggers was to extend the period of semi-abundance for several decades. Here's why:

A Day's Work Unrewarding

The horn of plenty had spoiled many a ginseng digger. Hundreds of them found quest for the root most unrewarding when a day's hard work with the 'seng hoe yielded only a few pounds of green roots. Uncounted diggers—from the bleak mountains of northern Maine to the sheltered hollows of southern Tennessee—gave up root hunting completely, and this reaction denoted a lengthy reprieve for numerous worthwhile patches of 'seng. It also permitted time for reflection on the plant's botanical classification and its mysterious importance to Chinese people everywhere. Confessed one old Pennsylvania 'seng hunter: "I been a-diggin' 'seng fer a long time and I still ain't sure just how the Chinaman wrings his money's wuth out of it. I've heard he chaws it for stomach's sake mostly. . . ."

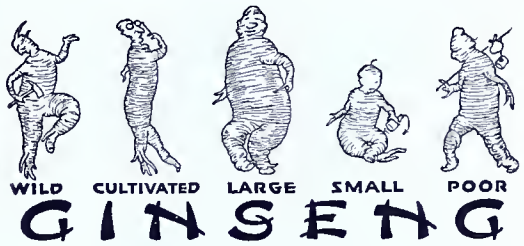
The old-timer's conjecture was partly right, but there was much more to know about the world's most sought-after root. A delayed kind of curiosity sprang up. Those who took time to study the wild plant they had long been harvesting to death found out that it was a member of the order *Araliaceae*, close kin of the parsley family. While it occurred west of the Mississippi, it was totally absent in arid regions because of shade and moist soil requirements. One new thing learned about the root led to another. Why, the very mystery of the root's purpose and reputed powers offered a challenge to the inquisitive!

Only patient experimentation was needed to determine that planted ginseng seeds require about 18 months to germinate. Another peculiarity: the plant actually prefers northern states, showing greater hardiness and better root quality where winters are severe. Southern roots, for example, never grade out as well as 'seng from, say, northern Pennsylvania, New York, Vermont, etc. And valuewise, "Dixieland" roots have lagged as much as $7 per pound behind those dug in northern zones. The latter over the years has shown better color, texture, firmness, and size. Expert ginseng graders can instantly point out the distinguishing characteristics.

50-Year-Old Roots

From the vast early stands of 'seng came roots of incredible size. Fifty-year-old roots were common in Pennsylvania and elsewhere. New York reported a 65-year-old root; Maine a 90-year-old one. But old roots usually were not the heavy roots, for those beyond thirty-five years old often showed signs of deterioration. Some were little more than bundles of shriveled fiber — punky, hollow, and diseased. A root weighing three-quarters of a pound need not be more than 16 to 23 years old. In fact the very best robust 'seng roots, called "prime finds," generally range from eleven to twenty years old. But it is known among thoroughly informed 'seng diggers that the shape of the root and not the size determines its real importance in the eyes of the Chinese marketmen. For in their language the word *ginseng* means "manform" or "likeness of man." And from the earliest traces of Chinese literature we learn that wondrous virtues of the magic root become even more powerful when its shape in some way resembles the human form.

Of course a straight root is always a good root, but an ordinary one. If it has sections that look like legs attached to a human figure, it is a very fine and valuable root. But if it is a grotesque freak, having "arms" as well as "legs," plus a bulbous head-like swelling at the top, then it becomes a priceless thing and only the regal can be considered as worthy buyers. (J.



Have You Been Getting the Top Prices of the Market for Your Ginseng?

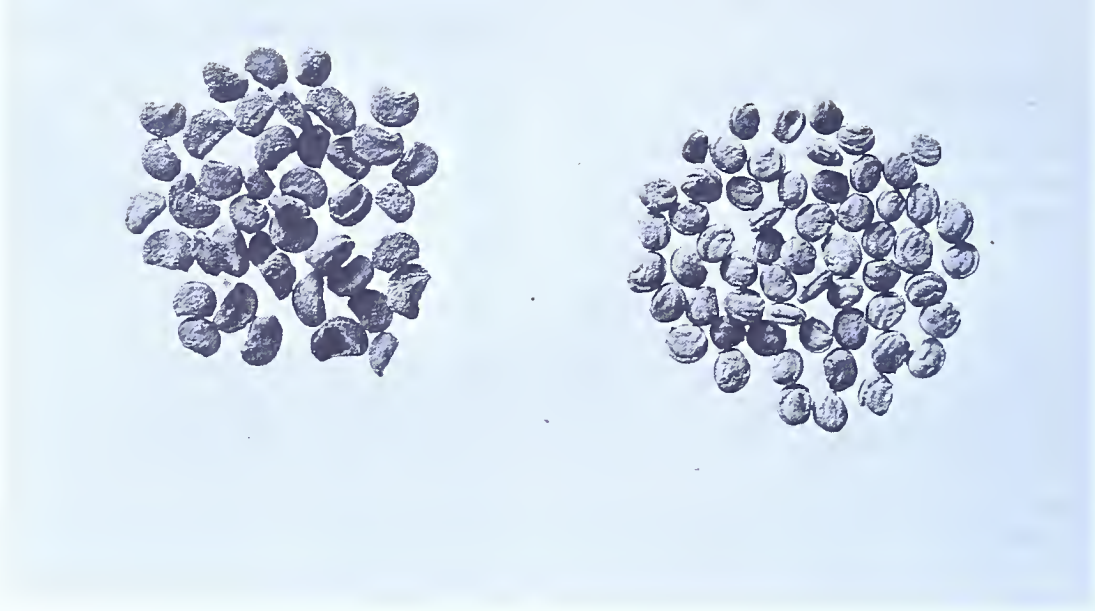
Don't hope so---KNOW SO by shipping your next lot to Struck & Bossak, Inc., the House where demand for all kinds of root---wild transplanted or cultivated---makes prices the highest the market will stand.

WE ALSO BUY GOLDEN SEAL

Send postal for price list

STRUCK & BOSSAK, Inc.
148 West 28th Street NEW YORK CITY

A 1923 ADVERTISEMENT in the Hunter-Trader-Trapper Magazine. In the 1920's American ginseng soared to a new price peak. It went way beyond $20 a pound at regular auction prices, and there were no higher prices quoted in North America than those offered for northern Pennsylvania 'seng.



USDA Photo

GINSENG SEEDS—each plant bears 20 to 30 or even more—require 18 months for germination and cannot be forced into faster germination.

Curtis Grigg, an Iowa expert on ginseng, says one such root is known to have brought $10,000 in a Chinese market place – perhaps the highest price ever paid for a single root!)

To this day in China various parts of an odd-shaped root of 'seng are used to cure specific disorders of the body. The leglike portions are used to treat leg malfunctions; the armlike sections do magic things for the arms; the enlarged uppermost part is a sure-fire aid to all ills of the head, etc. With all parts intact, a "human figure" root is supposed to be capable of establishing all-around good health through simple use as a talisman. Generally, however, ginseng is taken inwardly in some manner. It is made into pills, powder, and a cold brew. Sometimes it is used as a condiment, and on occasion a little pulverized 'seng is carried in a pouch for "sparse dusting of the tongue." It is made into hot tea, too, and a kind of confection is fashioned by mixing ground 'seng with honey and sugar. Very often it is chewed sparingly, and may even be smoked, gargled, or sprinkled in the hair. It has also been rubbed on wounds, carried between the toes of troublesome feet, made into ointment for stiff joints, etc.

All this has been going on for a very long while. And from time to time Oriental trust in the healing powers of ginseng has stirred the curiosity of American experts in pharmacology. New exhaustive tests of the 'seng root would be made after each major arousal of qualified druggists. Results were always the same—and still are. The root isn't worth a picayune as a cure-all. In fact it has almost no *bona fide* medical value at all! It must gain its full esteem from superstition for, as one druggist puts it "Common wild peppermint leaves easily surpass ginseng as a panacea candidate. . . ." (At one time ginseng did find limited favor in this country when processed into a demulcent, and Indians used it because they believed that "what was good for Chinaman was good for Indian." But its use gradually dwindled to a virtual 100 per cent disappearance in U. S. drugstores when other roots and herbs proved far superior in treating the simplest health irregularities previously entrusted to the "benefits of ginseng tonic . . .").

New Price Peak

In the 1920's American ginseng soared to a new price peak. It went beyond $20 a pound at regular auction

prices, and there were no higher prices quoted in North America than those offered for nothern Pennsylvania 'seng. Digging of the root had slowed considerably during World War I, and throughout this respite period stray stalks that had earlier escaped sharp-eyed diggers were able to re-seed sizable patches of the most doggedly hunted plant in the nation. News soon got around of this temporarily replenished source for genuine wild ginseng and competition became little less than fierce among both diggers and buyers. Of 75 fur buyers advertising in a popular outdoor magazine in 1923, nearly all sought to buy ginseng. In fact, 'seng at one time threatened to equal the dollar volume of American fur harvests!

The Big Search

Millions of acres of woodland now were in for a thorough combing as new interest in 'seng erupted. A pound of dry roots that could be traded for a $20 bill—wow! Inexperienced root seekers, frantically wondering what to look for, usually wound up gaining knowledge that went something like this:

Wild ginseng grows to a maximum height of about twenty-two inches. Its leaves are bright green in summer, turning yellow in autumn, and are egg-shaped with a saw-tooth margin. They end in an abrupt point, and range in number from two or three on a first-year plant to twenty or more on an old plant. A stalk of 'seng eight or ten years old may have four or five leaf-stalks branching out from the pencil-size main stem. From the center or crotch of these leaf supports pops up a slender flower stalk. The lacy, yellowish-green bloom appears in early July, soon giving way to the appearance of green berries. These grow rapidly, mature in late August, and ripen into bright-red seed berries in mid-to-late September.

Each berry, about the size of a small wax bean, contains in its fleshy case from one to three seeds, usually two. Wild 'seng seldom bears more than twenty to thirty seed berries per stalk. And once ripened only a few of these are apt to have a chance to germinate after frost brings them to earth, for certain birds are fond of them, and so are mice and chipmunks.

Reproduces From Seeds

Ginseng can reproduce itself only from seeds. Once the root is established, however, it annually puts up a stalk throughout its lifetime. The root's crown or "neck" takes on a scar each fall when the stem dies and drops off. From these scars or rings one can easily arrive at the root's age.

All through the 1920's ginseng was "dug to death." Autumn hillsides, once red with the plant's ripe berries, now were almost wholly barren of the root. Several sections of Maryland and Pennsylvania, reported by early settlers as "unmeasured acres of crimson berries blushing atop thatched beds of 'seng," now contained not so much as a spindly stalk of wild ginseng. And yet the mad search for the root was to continue! For hard on the heels of the 1920's high 'seng prices came the economic urgencies of the depression years. The inescapable death knell for wild ginseng had begun to toll, and the availability of cultivated 'seng was to be of no consequence in the wild root's plunge to almost total eradication.

Some Tried to Cultivate It

New Jersey is supposed to be the first state to grow cultivated 'seng (just before the turn of the century). Millions of dollars worth of the root have since been grown and shipped by growers from North Carolina to Michigan. But failures in the business have far outnumbered the successes. Prices received for cutivated 'seng are always far below those paid for wild roots. If you'd like to know more about the hazardous venture, write to the U. S. Department of Agriculture and ask for GINSENG CULTURE, Farmer's Bulletin No. 1184. It pro-

vides 18 pages of details covering every aspect of raising ginseng. But remember, even Uncle Sam warns on page 1 that "plunging in" can be disastrous!

Ginseng as a lucrative wild root crop suffered a third strike when, unlike stocks and other investments, its cash value failed to plummet to the dismal abyss of complete collapse. 'Seng prices dropped after 1929, of course, but utter panic in the market did not occur and fairly good roots still commanded a sound eleven to twelve dollars per pound – an eye-popping sum to the rural family man who couldn't find steady work at a dollar a day!

The country storekeeper who for years had purchased and shipped ginseng on a small scale (usually raw furs were also bought) now found greater quantities of the root coming in. Diggers eagerly traded their hard-earned roots for groceries and meager amounts of cash. (An example of such bargaining: the author recalls a country store near Confluence, Pa., where in 1934 an unemployed timber worker was observed to bring in three pounds of dry 'seng. He left with ten dollars in his pocket and more groceries than you could buy today with a $50 bill! As a lasting memento of that insecure era I have the scales upon which that and uncounted other lots of 'seng were carefully weighed through half a century of country storekeeping.)

As the depression years rolled along, the increasing scarcity of ginseng became a topic of rural discussion. For now a digger might search for a whole day where 'seng was most likely to grow—in rich soil that nourished such tree inhabitants as the butternut, poplar, and hardwoods—and not come upon a single root! The most sharp-eyed of veteran 'seng hunters frequently returned from a ten-hour search with one or two small roots. Everywhere the story was much the same. It was as scarce in Kentucky as it was in Pennsylvania. And so the acute dearth remains to this day.

Alarming as the thought was to some, the plant had suffered such a thorough "program of riddance" that almost no powers of recovery were left. Even so, there were and still are individuals—sometimes called "woods loafers" in Maryland—who are dedicated to the unsavory proposition of wiping out the very last stalk of wild American 'seng. Ruthlessly they scour the summer woods, unwilling to pause for reproductive rewards offered by the plant's ripened seeds, unwilling to nourish a single liberal interpretation of the word "Preservation."

Such is the account of the rise and fall of America's wild root bonanza. Such is the manner in which man became the Nemesis of an innocent little woodland plant. Such is the finis line for the real royalty of our world's earthy storehouse of roots.

PENNSYLVANIANS WIN BOONE AND CROCKETT AWARDS

The Boone and Crockett Club, an organization of big game hunters founded by Theodore Roosevelt, recently announced winners of its 1961 North American Big Game Exhibition. There were 2,342 entries in the 1961 competition. Following are the awards for trophies bagged by Pennsylvanians:

Mountain Caribou, First Prize, Drew W. Getgen, Williamsport.

Badlands Bighorn, Certificate of Merit, Lt. Gen. Richard K. Mellon, Ligonier.

Stone Sheep, Honorable Mention, Wade Martin, Blairsville.

White Sheep, Honorable Mention, Dene Leonard, Jr., Carlisle.



Photo by Leonard Lee Rue

COLCHICUS OR TORQUATUS? At least two species of pheasants were combined to create the ring-necked pheasant that Pennsylvania small game hunters seek each October and November. Regardless of his blood lines, they are all Oriental bombshells.

The Story of the Ring-necked Pheasant . . .

That Oriental Bombshell

By Isaac C. Baumgardner
Assistant Chief
Division of Propagation

WILL that *Pheasianus* you shoot next fall be a *Colchicus* or a *Torquatus?*

What did he say?

The ring-necked pheasant, one of America's greatest game birds, has long been a favorite "conversation piece" among Pennsylvania sportsmen.

The history of this bird goes all the way back to the tenth century B.C. when the bird was brought from Asia to Europe. However, pheasant bones found in primitive refuse heaps in Europe suggest that the bird might even have been native.

The name pheasant comes from its

Latin name, phasianus, which is derived from the Phasis River Valley (now Rion) in southwest Asia. The Argonauts who lived there were the people who brought the pheasants to Europe.

From Colchicus (the name of the province through which the river Phasis flows) is derived the name of the sub species *colchicus*. These pheasants are members of the black-necked family.

The toquatus or Chinese ringneck got its start in western China and Turkestan.

These two sub species and others have been mixed to produce the sturdy game bird we now have in Pennsylvania.

One of the earliest introductions of pheasants into the United States was that of a shipment of birds received by Richard Bache, the son-in-law of Benjamin Franklin, a few years after the Declaration of Independence. Bache obtained English pheasants about 1790 for his estate near Beverly, N. J. About 1800 a second attempt at stocking pheasants was made by a landower in the vicinity of Belleville, N. J. Apparently those early attempts at introduction met with failure.

Pierre Loullard released many pheasants in northern New Jersey about 1800, and in 1887 Rutherford Stuyvesant brought a number of birds from England for stocking the Tranquility Game Preserve at Allamuchy, N. J. Within a few years pheasants became well established in the region. The first birds stocked in Pennsylvania were probably liberated in 1892.

Four years later on November 17, 1896, the Pennsylvania Game Commission was established. The first appropriation of $800 in 1897 for postage only, for two years, hardly provided funds for anything like stocking game. It was not until after the resident hunting license law of April 17, 1913, was enacted that a $1 fee for a hunting license provided funds for a game program.

PHEASANT WING CLIPPING in 1931. The author is shown here when he was Superintendent of the Fisher State Game Farm (now the Eastern Game Farm). This was the third year of pheasant game farm production in Pennsylvania.



First Game Commission Purchase

During 1915 and 1916 the Game Commission purchased 1,564 ring-necked pheasants and 5,358 ring-necked eggs.

Most of these were obtained from the state of Oregon where the Chinese ring-necked pheasant had been successfully transplanted in the Willamette Valley in 1891 through a gift of 28 birds from Judge Owen N. Denny then U. S. Consul General at Shanghai, China. These eggs were shipped to Game Protectors who in turn distributed them to farmers and sportsmen through the counties of the southern half of the state. A total of 2,978 chicks were hatched under chicken hens and bantams. Of these, 959 were raised and released.

The author personally raised and released nine of these birds in Todd Township, Huntingdon County. Eight of them were killed by hunters that fall (4 males and 4 females). One female remained in the area until late

winter when she was killed by an owl while roosting in the snow a short distance from the pen where she was raised. The balance of these birds was released in small groups of three to five birds scattered over such a large area that records of kill were difficult to obtain. Records show that 796 were reported killed in 1915 and 1,253 in 1916.

Through the purchase of birds and eggs, stocking was continued over the next twelve years (1917-1928) at an average of 6,320 birds per year. The kill increased to an average of 54,771 birds a year.

Hen Pheasant Protection

The hen pheasant has been protected since 1923 and during the season of 1928 (the year before the first Game Farm was started) 143,239 male pheasants were reported killed. The 1928 pheasant season was open Thursday, Friday and Saturday of each week from October 15 through November 30 (18 hunting days).

In 1926 and 1927 prior to the establishment of the two pheasant farms several Game Refuge Keepers, including myself, were given pheasant eggs purchased by the Game Commission. Records show some of these men were very successful and the breeding stock for the Game Farms was raised by these men. The first ringnecks were raised at the Game Farms by the "foster mother system." The ringneck breeders were placed in laying pens, their eggs were collected and placed under chicken hens and bantams. The broody hens were purchased from local farmers and transported to the Game Farm and put in the nesting boxes at night. If the hen remained quiet and broody, 12 to 15 pheasant eggs were placed under her the next night.

Required Moisture

Pheasant eggs require more moisture than poultry eggs during the incubation period. To maintain the moisture in the nesting box a sod was



BROODER COOP on the Fisher State Game Farm in 1931. This system of raising young pheasants by using a chicken hen confined to the coop was devised in the middle '20's by the author. Chicks in this photograph are two weeks old.

lifted from a field, the grass cut short and the sod was placed in the bottom of the nest box, grass side up. The sod was wet down every day and the grass remained alive until the chicks were hatched 24 days later.

The Field Coop

At the Fisher State Game Farm, Schwenksville (now the Eastern Game Farm), we set a total of 19,000 eggs under 1,200 hens. When the chicks were hatched the hens and chicks were removed from the nest and placed in a field coop, two feet square with a small runway in front. This pen kept the chicks close for a few days while they learned the language of the foster mother and would return to the coop when she clucked. Then the runway was removed and the chicks roamed freely in the vicinity of the coop where the hen was kept confined until the pheasants were about eight weeks old and when they neither accepted any care from her nor returned to the coop for shelter at night. Then they were trapped from the brooder field and placed in a rearing field until they were released.

During the five years (1929 through 1933) after the Game Farms were



FISHER STATE GAME FARM in 1931, three years after pheasant farm production began in Pennsylvania. This 20-acre field was dotted with brooder coops 50 feet apart. The author and Howard Kirk, a farm helper, are shown feeding and watering the pheasants and their foster mothers.

started an average of 16,000 pheasants per year were released. The average kill for the same period was 260,400 male pheasants per year. In 1933 the Game Farms adapted the artificial incubation and brooding system, using electric incubators and brooders. About 250 chicks were placed in a brooder house where they were confined for a week to ten days; then they were given access to a small runway adjoining the brooder house. This runway was enlarged as the birds grew older and when they were about eight weeks old, they were removed from the brooder field and placed in rearing fields until they were fifteen to twenty weeks old. At this age they were released.

By this system, the stocking was increased during the next five years to an average of 32,500 per year. The kill for this period averaged 336,250 male birds per year. In 1938, the last year of this five-year period, 517,280 male pheasants were killed. By this time all of the good pheasant range and nearly all of the common and some very poor range had been stocked and restocked.

From 1938 to the present time through purchases, from birds reared at the Game Farms and by sportsmen and farmers, stocking has been increased and pheasants are being released in nearly every county of the state. During this period the number of birds killed has not increased materially. Farming practices have changed, horse-drawn farm machinery has been replaced by tractors and many thousands of pheasants as well as their nests are destroyed. Our high-speed automobiles and improved highways are taking their toll, too. On a fifty-mile drive on one of our four-lane highways I have observed the remains of from 15 to 25 pheasants. Of these about 75 per cent are hens leaving a nest of eggs or a brood of chicks to perish.

Good pheasant range is becoming more limited due to rural development and in some instances whole townships in what was once good pheasant range are closed to gunning. It is the opinion of this writer that we must continue to improve our present practices, make a thorough study of the natural enemies of the ringneck, improve their range and habitat where possible and do our restocking in areas where natural reproduction can reasonably be expected if we are to maintain the present number of this most popular game bird.

Some Interesting Answers
To That Old Question . . .

Do We Harvest Enough Chucks?

By David E. Davis
Department of Zoology
Pennsylvania State University

WHETHER game species or domestic animal it's important to harvest the proper number of animals each year. Farmers who raise beef cattle carefully determine how many animals they can maintain on their pastures and can feed through the winter and send the surplus to market. Naturally, the farmer culls particular individuals and keeps the proper number of breeding individuals for the following year. Harvesting of the game species depends on the same basic principles. Unfortunately, for most game animals, since suitable information is lacking, we usually have to guess at the proper number to harvest.

For ground hogs we now have data that may provide the answers. A five-year study in southcentral Pennsylvania has provided information about the numbers born and the numbers that die during the year. These results permit some suggestions about the number to harvest. During the 5 years about 4,000 woodchucks were trapped or shot; many of them were tagged and released and recaptured at a later time. The program was designed to determine what changes would occur in the numbers born and numbers that died during a year when significant numbers were harvested. Therefore, an intensive trapping and shooting program was carried out in an area of about 600 acres. During four years approximately three tons of ground hogs were taken out of this area. For reference another area was selected

SUMMER FUN is yours with the necessary equipment for chuck hunting. The above study has shown that to certain limits, the higher the harvest the higher the production. Thus, the woodchuck is able to maintain a constant population regardless of how high the harvest.
Photo by Don Shiner





Photo by James S. Seibel

OLD CHUCK HIMSELF was the object of this extensive study involving two areas. One area was harvested heavily, and the other had a very light harvest. However, the population remained the same.

from which only a few animals were removed. In spite of the removal of large numbers of ground hogs the populations in the two areas remained essentially the same in number. These estimates were obtained by counts of animals seen along the roads and by the numbers captured per trap during specific periods of time.

The results showed several striking changes. The first, of course, was that due to the removal of large numbers of individuals the average age of the ground hogs in the population declined. In 1957, 67 per cent of the woodchucks were adults but by 1960 the ratio had dropped to 29 per cent. In the other area (where only a few woodchucks were removed), the percentage of adults in the population varied in the four years between 67 and 71. Another striking change occurred. The number of young per adult female, in 1957 was slightly more than four but the number had risen to almost five four years later. A change also occurred in the percentage of woodchucks that became pregnant. On the reference area almost all of the adults were pregnant but only half or less of the yearling females became pregnant. In contrast on the experimental area 80 per cent of the yearlings became pregnant.

Birth Rate Important

The important figure is the birth rate which is a measure of the number of young produced per ground hog in the population. This figure summarizes the production for both the adults and yearlings. On the area from which large numbers of ground hogs were removed the birth rate rose from 1.3 to 1.6 and then dropped to a low value of 0.9 in 1960. In contrast, the birth rate in the other area rose and remained relatively high. In brief, what happened in the test area was that the removal by shooting and trapping of large numbers of individuals resulted in a better survival of the young-of-the-year. In the first year about 23 per cent of the young survived but by the fourth year 79 per cent survived. Obviously, the survival of the adults dropped to a very low level because so many were harvested.

Harvest Could Increase

A little arithmetic shows that the harvesting could increase very greatly. Consider a stationary population that is not hunted containing 100 adults and yearlings in February. About thirty die during the year out of the hundred that came out of hibernation. Young-of-the-year would replace them. Let us assume, under these circumstances, that none is harvested. Then the population would remain at 100. But in contrast when adult ground hogs are removed, the survival of the young is much higher. The harvest of some adults would permit young to survive to adulthood. Calculations based on the harvesting of ground

hogs from the test area show that, in a population of 100, 41 adults could be removed without decreasing the numbers simply because the removal of these individuals allows a greater survival of the remainder. This increased harvest can be obtained even though the birth rate drops as low as 0.9.

Under these circumstances, removal of ground hogs sets in motion a number of forces that will result in a higher production and hence a higher harvest. The real problem is to know how many to remove. Obviously there is a point beyond which the ground hogs cannot maintain their population. Not enough experience has yet been gained in various parts of Pennsylvania to know how many should be taken out to provide the maximum harvest. However, from the results in this area, it would seem that the population may be producing its maximum harvest when about 60 per cent of the individuals in April are yearlings. It would be desirable to determine in various parts of the state how well this proportion serves as a guide for harvesting ground hogs.

Tree Farming Increases Game Population

JOHNSONBURG — An expanding army of hunters is adding emphasis to the importance of tree farming Pennsylvania's forest lands, according to A. L. Bennett, of Johnsonburg, chairman of the Pennsylvania Forest Industries Committee.

Tree Farm practices, the forest industry spokesman said, is aimed primarily at growing repeated crops of quality trees, but the practices also help encourage deer and other game production.

An old growth or unmanaged forest with its out-of-reach branches, dense shade and dead and decaying timbers is largely a desert for animal life, Bennett said. In contrast, the forest "edge" created by active forest management with road building and good cutting practices produces food and shelter for most species of animals and birds, he added.

"Harvesting timber under Tree Farm principles," Bennett said, "results in natural, new forest growth and speeds the growth of young trees left in the forest stand. In such areas the tender shoots and lower limbs of young forest growth provide the browse for our deer herds and other wildlife.

"Because of timber harvesting there are many times more deer in Pennsylvania today than when William Penn established Philadelphia.

"Grouse, turkey, woodcock and quail also find the best homes in or near managed timberlands where there is plenty of food and cover. Small game, such as rabbits and squirrels, have their dens and burrows in or close to woodlands.

"Thus, it can readily be seen that Pennsylvania's 649 certified Tree Farms, where timber is regularly cut, are making a definite contribution to wildlife conservation as well as to the state's wood supply."

Bennett's committee, representing major wood dependent industries of the state, sponsors the American Tree Farm System of voluntary forest management. Tree Farm members are woodland owners who are taking positive steps to aid the growth of timber.

Better wildlife and timber crops, Mr. Bennett added, are part of the multiple-use principle of managing forest lands, which provides a combination of uses and services. Other multiple-use benefits compatible with tree farming include soil and water conservation and recreational use, he said.

Multiple-use is the theme of a new booklet, "Our Forest Bounty," being distributed by Pennsylvania Forest Industries Committee. Copies may be obtained without charge by writing to the committee at 321 Dauphin Bldg., Harrisburg, Pa.



According to many moth collectors, the imperial moth is either the sleepiest moth in the woods, or else it is not as readily attracted to lights as are most other species. The larva of this moth departs from those of others in that it feeds mainly upon various species of pine. And as with the preceding, the larva pupates underground.

The most fascinating thing about the I O moth is the vast difference in coloration between males and females. Males are bright yellow while females are reddish-brown. The larvae of these relatively common moths feed upon corn leaves and other garden plants. Unlike those of other large moths, the larvae are covered with rows of sharp spines which are mildly poisonous. The irritation is similar to that caused by nettle. Cocoons are found upon the ground. As a result, many are destroyed each spring when fields and gardens are plowed.





The cecropia is the largest moth found east of the Mississippi. And because of its huge size and multicolored wings it probably leaves a more lasting impression than any other moth. Indeed, Museums of Natural History are continuously surprised by uninformed people who, after seeing a cecropia for the first time in their life, promptly send it in under the conviction that it's something new to science. The larva feeds upon a large variety of plants, including: Lilac, maple, sumac, wild cherry, among others. Strong, brown cocoons are attached to twigs upon the food-plant.



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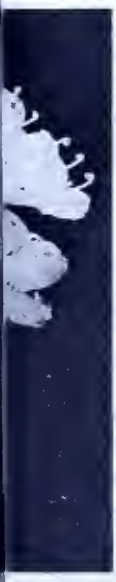
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JUNE is dairy month on the
students. And an exciting

June is vacation month, too.
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The promethea moth, sometimes called the spicebush silk moth, is found throughout the eastern half of the United States. However, since its larva feeds almost exclusively upon sassafras, the species is comparatively localized; that is, it is generally common in areas where sassafras grows abundantly. The larva is also known to feed upon various other plants in captivity. Cocoons are wrapped in individual leaves upon food-plants. This moth is undoubtedly one of Pennsylvania's most glamorous.



Named after Polyphemus — the one-eyed giant of Greek mythology—the polyphemus moth is one of the most common, large moths found throughout the United States. The larva feeds upon sweet gum, maple, hazelnut, and oak. Cocoons may be found upon the food-plant, or among leaves on the ground.

Even though its long trailers do not allow for graceful wing movement when in flight, the luna moth is recognized the world over as North America's most beautiful insect. It has been described as the only northern moth with a tropical-look, since many tropical species are characterized by similarly long trailers. Its larva feeds upon hickory, maple, and walnut leaves. When not feeding, the larva assumes a hunched-back position—thus resembling a curled leaf. Cocoons are found among grass and leaves on the ground, seldom upon food-plants.

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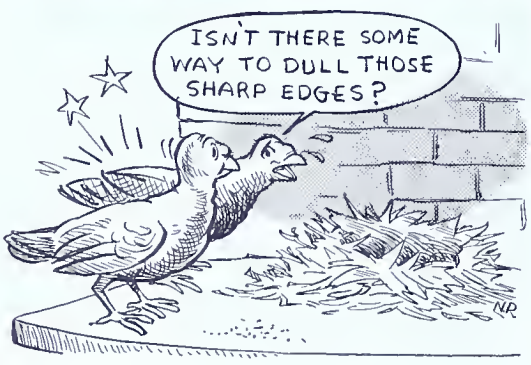
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FIELD NOTES



A Strong Nest

ALLEGHENY COUNTY—The following was told to me by Jim Harbaugh, a local sportsman: "While repairing an overhead crane, I was amazed to find a pigeon nest made from tin scrap. Since the Wabash building has been torn down for the Pittsburgh Renaissance the pigeons have come down river a little and settled in and around our plant. The only nesting material lying around was scrap tin in our scrap yard and being good 'Steel City pigeons' they used it to build a nest high under the roof of the building."—District Game Protector James W. Hay, Coraopolis.

Safe Hunting for the Future

POTTER COUNTY — When a Hunter Safety Course was mentioned at one club meeting in the district one individual got to his feet and declared he felt it very foolish and a waste of time due to the fact that children in this northern tier grew up with a gun in their hands. I am happy to report school officials, parents and other individuals did not heed his advice and at the present time approximately 140 students are enrolled in Hunter Safety Courses throughout this sparsely populated district.—District Game Protector H. Richard Curfman, Coudersport.

A Happy Ending

GREENE COUNTY—On March 14, 1962, I received a call from Professor Charles Bryner, of Waynesburg College, that he had found a dog with three pups on the hillside behind his home and wanted some help getting her to his house. Professor Bryner is an avid beagler and a great lover of dogs. He heard a dog barking one night and on investigating he found the female beagle with her three pups. At first he could not get near the dog, because she would snarl at him. After several trips, both at day and night to feed her, he then thought that she could be taken home and the owner found. After we had the beagle and her pups home and comfortable in the shed with straw bedding, we found the dog had a Beaver County license. A call was then made and the owner of the dog was found and the dog returned. The pups were born just prior to the big snowfall here, and it is because of men like Professor Bryner that wildlife and animals of all kinds will always have champions of conservation and humanitarianism on their side. — District Game Protector Leslie V. Haines, Waynesburg.

Since He Was a Pup

WESTMORELAND COUNTY — The years have not dimmed the love and appreciation of the out-of-doors for W. S. (Simmy) Pyle, of Youngwood, who is 86 years young. Simmy has trapped every year, as he puts it, "since I was a pup." This year's bag consists of 51 muskrats, 29 opossums, 19 skunks, 8 raccoons, 2 weasels, 1 mink and 2 crows. Simmy will very modestly tell you, "this has been an off year for me." — District Game Protector Joseph M. Maholtz, Mt. Pleasant.

"Swaney" Scene

BEDFORD COUNTY—On March 23 a very large flight of swans landed on the ice at Shawnee State Park Dam. Hundreds of persons came to observe the sight. Estimates ran as high as one thousand swans. At least an acre or more was literally covered with the large white birds resting on the ice. I estimated the flock at between 400 and 500 swans. Also, it was interesting to note that the swans stayed on the ice and did not use any of the open water surrounding the ice patch. At approximately 8 o'clock the same evening all the swans but about a dozen took off for parts unknown. —District Game Protector William Shaffer, Bedford.

No False Point

WESTMORELAND COUNTY—On March 19, 1962, Chuck Kidney, of Delmont, was working his Brittany spaniel on a nearby farm. The dog had pointed two birds. On the dog's third point, Mr. Kidney walked in to flush the bird. Suddenly about ten feet in front of the dog a red fox jumped up and took out across the field. A very surprised Mr. Kidney approached the dog to scold him. Just as he reached the dog, who was still on a point, a ring-necked pheasant flushed about five feet in front of the dog.—District Game Protector Philip L. Young, Apollo.





Buddies

ERIE COUNTY — Chester Weber, Deputy, from North East, R. D., reported that a skunk took up lodging with his young beagle dog. The skunk curled up in one corner of the pen and the dog in another. Chet put a dish in the pen to feed the skunk and one for the dog. This strange friendship continued for about two weeks until Mrs. Weber objected to the defensive attitude of the skunk when she went in the pen to feed the dog. Chet took the skunk in a box trap to a new locality.—District Game Protector Elmer Simpson, Union City.

Turkey Treachery

LEBANON COUNTY—During the latter part of February, Deputy Wolfe called and reported a complaint that he received. Some turkeys were causing trouble at a chicken farm in the northern end of the county.

The trouble was, this flock of turkeys, consisting of one old tom and six younger birds, was setting up housekeeping at this farm, with no objection until a woman carrying a basket of eggs was attacked by this tom. You guessed it—the egg basket was dropped, breaking many of the eggs.

The old tom was live-trapped and restocked along with a hen, several miles from the farm. Last report—no more broken eggs. — District Game Protector Perry A. Hilbert, Cleona.

A Long Way to Water

SNYDER COUNTY — March 23 while crossing Shade Mountain from Beaver Springs to McAlisterville, I found a road-killed muskrat on the top of the mountain. There is no stream or water close by. It was several miles to the nearest stream—District Game Protector Raymond Holtzapple, Middleburg.

Tom Is the Boss

TIOGA COUNTY—Bob Briggs and Leo Schmack, of the Morris Rod and Gun Club, were checking one of the club's numerous turkey feeders in the middle of March and happened in on one of nature's oddities. As they approached the feeder they could see three young deer standing near the feeder and the deer appeared to be watching something under the feeder. The men stopped to watch and soon one of the deer gingerly approached the feeder. They saw a movement under the feeder and the deer quickly retreated. As it again tried to get to the feeder they saw the movement again and this time a big tom turkey came from beneath the feeder and chased the deer away from their meal. They watched the episode repeated several times in the next ten minutes and then the deer winded them and moved off to let the turkey feed in peace. The old tom let them know in no uncertain terms that it was his feeder.—District Game Protector Keith C. Hinman, Wellsboro.





Woodys at Play

JUNIATA COUNTY — Charlie Leiter, one of my Deputies from R. D. 1, Mifflintown, told me that on Saturday, March 24, he was sucker fishing near Carter's Hole on the Juniata River. While sitting on the bank he noticed a few nice wood ducks bobbing by in the current. They were really enjoying themselves. They would fly upstream, sit down and let the current carry them over the bumpy, rough riffles near the upper end of the hole, then after the ride was over, fly back up for a repeat performance. I imagine this is not too far removed from the thrill that kids get out of a sliding board or a roller-coaster.—District Game Protector Robert Shaffer, Mifflintown.

He Made It

CLARION COUNTY — While on night patrol just after the deer season in Elk Township, Deputy Scholl and I observed an albino deer in an old orchard. We had observed this same deer all summer and had speculated as to whether it would make it through the antlerless season. Since so many people knew it was there and the rare trophy it would make, we had our doubts. Without the aid of snow to help hide it, and the great number of hunters afield, it makes you wonder if animals are as dumb as we would like to believe.—District Game Protector Jack M. Lavery, Clarion.

Deer Are Plentiful

COLUMBIA COUNTY—From reports received over the district, a very good supply of deer is on hand for the coming season. Even a few diehards have remarked that deer are plentiful. As many as 37 deer have been observed at one time feeding in fields.—District Game Protector Harold F. Harter, Bloomsburg.

$1 Well Spent

LUZERNE COUNTY — While attending recent sportsman meetings, it has been indeed gratifying to receive unsolicited comments from the local sporting fraternity concerning the Pennsylvania GAME NEWS magazine. The general consensus is that it is a dollar well spent.—District Game Protector Howard W. Bower, Jr., Wilkes-Barre.

Back-Yard Game Lands

CLARION COUNTY — The town of Foxburg, Clarion County, seems to have its share of deer right in town. One resident claims he cannot feed songbirds, for the deer eat the feed first. Another resident says he can look out of his window any morning and see deer in his yard looking at him.—District Game Protector Leo J. Badger, Knox.

Game Supply Good

LYCOMING COUNTY — To date this year the deer have come through the winter in very good condition. I am seeing more deer this spring than last spring. Have not seen a deer that has been winter killed, nor have I had reports of same. Have a good supply of turkeys for breed stock, and a good supply of grouse.—District Game Protector Levi R. Whippo, Williamsport.

Concrete Beaver Pond

LUZERNE COUNTY — On March 30, I had just returned to my headquarters from a division meeting when the phone rang. It was Mr. Olenick, of East Butler, who had a good question, "How do you get a beaver out of a public swimming pool?" The beaver must have gotten into the pool at Stoffa's Grove, which is about half way up the Drums-Freeland Mountain, the night before and when people gathered around in the morning to witness the event, the beaver was too scared to leave. I told him that the beaver would probably leave after dark when there were no people around. I heard nothing Saturday so the beaver must have left. I don't know how to explain the beaver's actions except that perhaps nature's original and most skilled construction engineer was trying to find out if the modern, human, book-educated engineers had added anything new to the building business.—District Game Protector Robert W. Nolf, W. Hazleton.

Bear Feeder

McKEAN COUNTY — When I checked feeders at State Game Lands No. 61 I found that a bear had been at one in Coal Bed Hollow. He didn't do any damage to the feeder but apparently had fun rolling a steel drum in which I store corn, trying to release the lid.—District Game Protector Cecil D. Hancock, Port Allegany.







PENNSYLVANIA STATE FISH AND GAME PROTECTIVE ASSOCIATION

Commendation

Mr. Leon P. Keiser, Supt.
State Wild Turkey Farm
Pennsylvania Game Commission

Greetings:

At a stated meeting of The Pennsylvania State Fish and Game Protective Association held this date in the city and county of Philadelphia, the following resolution was adopted by this association.

Resolved:
that in recognition of outstanding dedicated service in the field of propagation, we give the highest tribute to LEON P. KEISER for his contribution in the restoration of the game bird, THE WILD TURKEY, to PENNS WOODS.

Be It Further Resolved:
that appreciation for a task well accomplished is rendered him who largely through his efforts, foresight, and planning caused the range of this game bird THE WILD TURKEY to expand from three million to thirteen million acres in ten years, thereby assuring untold hours of enjoyment and pleasure for all those who pursue this sport.

Witness

George McCann, President

Melville R. Fowe, Secretary

April 12, 1962

GOLD MEDAL WINNER Leon P. Keiser (right) receives his certificate of honor from Pennsylvania State Fish and Game Protective Association President George McCann at the Annual Banquet on April 12 in Philadelphia.

Leon P. Keiser, Superintendent, Turkey Farm, Gets Gold Medal

Leon P. Keiser, Superintendent of the Pennsylvania Wild Turkey Farm at Barbours, is the holder of the 1962 Gold Medal Award of the Pennsylvania State Fish and Game Protective Association.

The high honor came to Mr. Keiser, an authority on the breeding of wild turkeys, at a dinner in Philadelphia, April 12.

The dinner marked the 80th anniversary of the association, which was founded in 1882. It claims to be the oldest fishing, hunting and conservation club in the nation.

Mr. Keiser, a native of Mexico, Juniata County, is a graduate of Gettysburg College.

Having a total of 30 years service with the Game Commission he has contributed greatly to the restoration of the wild turkey as a game bird in Pennsylvania. He also has assisted many states and other countries in their wild turkey programs.

Some of the other recipients of the award are: Dr. Maurice Goddard, Secretary of Forests and Waters, former Governor James H. Duff, former Game Commission Executive Director Seth Gordon, former Administrative Secretary for the Fish Commission Henry Stackhouse, Judge Grover C. Ladner, and Pennsylvania Federation of Sportsmen's Club President Everett Henderson.

Another phase of the dinner program included the presentation of 25-year pins to three area Deputy Game Protectors. In recognition of their services, Game Commission Executive Director M. J. Golden awarded 25-year pins to Deputy Game Protectors Laurence C. Chase, Abington; Joseph F. Diringer, Philadelphia; and Douglas M. Cull, also of Philadelphia.



PGC Photo by Steve Kish

WYOMING COUNTY FEDERATION OF SPORTSMEN'S CLUBS' BANQUET held at the Lackawanna Trail High School on April 14 saw these conservationists in attendance. Seated are Roy W. Trexler, Game Commission Northeast Division Supervisor; M. J. Golden, Game Commission Executive Director; Gene Coleman (toastmaster), of the Scranton Times; Earl Lorah, Vice-President of the Wyoming County Federation. Standing are Norbert J. Molski, Game Commission Law Enforcement Assistant in the Northeast Division; Myron Shoemaker, outdoor writer from Laceyville; Francis Heisler, President of the Wyoming County Federation; and George Gay, who gave the invocation.

Age Groups of Pennsylvania Resident Hunters

How many residents of Pennsylvania purchased a hunting license for the first time in 1961? What ratio of our resident hunters is found in the various age groups? Answers to these questions were recently obtained through a Game Commission survey. These answers provide information valuable to the Commission in planning its activities, especially its hunter safety training program. The survey revealed:

About 65,000 persons, or 7 per cent of the residents who purchased a 1961 hunting license, were first-time hunters. Within the group 56.5 per cent were in the 12 through 19 age bracket. The 20 to 50 age group included 38.2 per cent. The percentage of persons 50 years of age or older represented but 5.3 of the first-timers.

The age classifications of all Pennsylvania residents who purchased a 1961 hunting license include: 12 through 19, 19 per cent; 20 through 49, 63 per cent; and 50 to 65 and older, 18 per cent.

Future Farmers Win Wildlife Habitat Improvement Awards

Each year a Wildlife Habitat Improvement Project for Future Farmers is jointly sponsored, in Pennsylvania, by the Game Commission and the Department of Public Instruction. Awards are annually made to FFA members who excel in a wildlife conservation project.

State-wide winners for 1961 were: 1st — Tim Werner, Governor Mifflin High School, Berks County, $125; 2nd —Dennis Catherman, Cranberry High School, Venango County, $75; 3rd—James Denkenberger, Troy High School, Bradford County, $50.

Three award winners were chosen also, from various sections of the state. In each area the awards were for 50, 35 and 25 dollars. The top winner in each section was: Bruce Morton, Conneaut Valley, Crawford County; James Tomasko, Penns Manor Joint, Indiana County; James Eackley, III, Clearfield High, Clearfield County; Charles Carey, Shippensburg High, Cumberland County; and Mark Rapp, Oley Valley, Berks County.





"WELCOME TO THE SCHOOL," says Conservation School Superintendent Don Miller as he greets two of the 21 Student Officers on March 25. Student Officers D. W. Gross and D. C. Madl are shown here as they arrive at the Ross Leffler School of Conservation, near Brockway, for their training. This school will be their home for nearly a year. Student Officers (right) are shown studying dendrology under the direction of Research Biologist Stanley Forbes.

Many Rabbits Moved From Town to Country

Nearly 46,000 cottontail rabbits were live-trapped this year, largely during January, under the Game Commission's annual program. They were released in open hunting territory. Most of the bunnies were removed from parks, cemeteries, tree nurseries and home gardens where they became unpopular because of their eating habits.

Approximately 52,000 rabbits were box-trapped and liberated as brood stock during a similar period in 1961. Other recent-year totals of cottontails caught and transplanted under this program are: 1960—53,100; 1959—43,900; 1958—55,900; and 1957—56,600.

Group Evaluates Pesticides-Wildlife Problems

A study group of the National Academy of Sciences-National Research Council suggests that scientists "should unite forces in an all-out effort to identify and evaluate specific hazards and to develop corrective measures for objectionable practices" in the use of chemical poisons for agricultural, forestry, and public health purposes, according to the Wildlife Management Institute.

The group, designated the Subcommittee on Evaluation of Pesticides-Wildlife Problems, Committee on Pest Control and Wildlife Relationships, reviews the use of pesticides in modern day living, the values of wildlife, and the impact of pesticides on wildlife. It concludes in the 28-page report: "(1) Because they were developed as toxicants for certain species of animals, insecticides and rodenticides tend to pose greater hazards to wildlife than do other classes of pesticides; (2) although wildlife may at times be adversely affected by the normal use of pesticides, it is the misuse of those pesticides highly toxic to specific plants or animals that poses the greatest hazards . . . ; (3) greater damage to wildlife may occur in eradication and other programs requiring pesticide dosage application rates considerably higher than those used in routine . . . control programs; and (4) heavy losses in aquatic life, especially fish, often can be traced to lack of proper safeguards to prevent unintended spread of the chemical over water areas."

Beaver Season Termed Fair

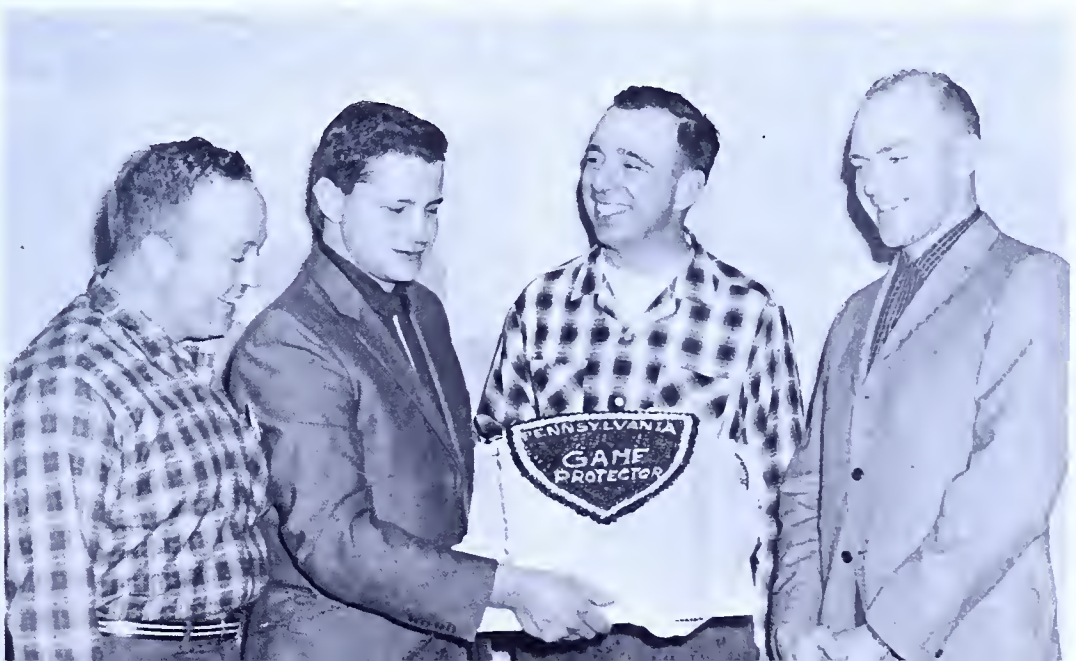
The 1962 beaver trapping season ended March 18 and reflected a fair catch. Game Commission figures show that the total catch of 3,269 trapped in Pennsylvania in 1962 was under 1961's total of 5,333 and better than 1960's catch of 2,940.

BEAVER SEASON
FEBRUARY 10 TO MARCH 18, 1962

County	*No. Beavers*
Allegheny	3
Armstrong	7
Beaver	24
Bedford	5
Bradford	195
Bucks	1
Butler	3
Cambria	12
Cameron	25
Carbon	8
Centre	23
Clarion	12
Clearfield	117
Clinton	41
Columbia	4
Crawford	262
Dauphin	1
Elk	124
Erie	72
Fayette	17
Forest	39
Fulton	15
Greene	10
Indiana	3
Jefferson	36
Lackawanna	116
Lawrence	7
Lebanon	4
Luzerne	164
Lycoming	88
McKean	102
Mercer	26
Monroe	158
Northumberland	1
Pike	96
Potter	79
Schuylkill	11
Somerset	2
Sullivan	150
Susquehanna	354
Tioga	202
Union	4
Venango	20
Warren	74
Washington	21
Wayne	394
Wyoming	137
TOTAL	3,269

A FAREWELL party and dinner were given in honor of Student Game Protector Don Madl (second from left) by the Butler City Hunting and Fishing Club the week before he left for the Ross Leffler School of Conservation at Brockway. Others shown are Game Protectors John Badger, Paul Miller and Jay Swigart. The dinner was sponsored by the M&L League of the City Club and the Deputy Game Protectors of southern Butler County.

Butler Eagle Photo





LONG YEARS OF SERVICE were recognized recently as Law Enforcement Chief Thomas Bell presents 25-year pins to Deputy Game Protectors Samuel William, of Cornwall, with 35 years of service (one of the longest terms in the state) and Harold E. Jones, of Jonestown, with 28 years of service. The two were recognized at a meeting of the Lebanon County Federation of Sportsmen's Clubs on March 29.

Waterfowl at 11-Year Low

Wintering grounds counts indicate that the continental waterfowl population has reached its lowest point of the past 11 years. The results were compiled from information gathered in January by a crew of 1,639 cooperators who logged 93,000 miles by air, 91,000 by ground, and 1,150 miles by water in a census that covered the North American continent from Alaska to southern Mexico and Puerto Rico, the Wildlife Management Institute reports.

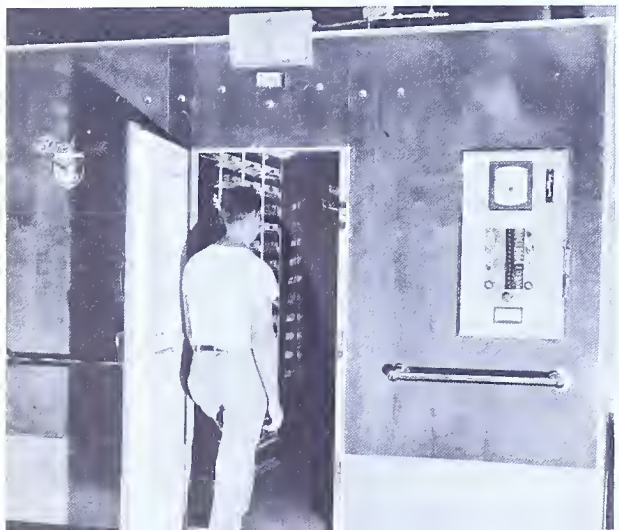
The count showed that ducks are down 13 per cent from last year and 10 per cent below the average of the past 13 years. Geese declined 8 per cent from last year, but remain slightly above the long-range average. Of the favored hunting species, only scaup and Canada geese show increases over last year. Mallards and pintails are at a 9-year low. Fewer black ducks were observed than at any time since 1950, and canvasbacks continue at a critically low level.

Attention now swings to the great waterfowl breeding grounds of the U. S. and Canada where the birds will be returning shortly to nest and rear young. Much of the success of this year's hatch depends on the supply of water in the potholes and marshes as well as on the rainfall and runoff situation.

Changing Your Address? Don't Forget GAME NEWS

The Post Office will not forward copies unless you pay extra postage and we cannot replace lost copies. SO PLEASE . . . at least six weeks before the first issue to go to the new address, send us your name, new address including postal zone, and your old address. Mail to GAME NEWS, Pennsylvania Game Commission, Harrisburg, Pa.

LATEST IN PHEASANT INCUBATORS is the Buckeye 140 Incubator (setter unit) acquired this past year for the Commission's Western Game Farm at Cambridge Springs. This machine has a capacity of 78,000 pheasant eggs and is reported to be the largest pheasant incubator in existence. The capacity of this unit will permit the release of the breeders by early June, allowing them to nest after their release and increasing total pheasant production considerably.





Spring Releases of Game Birds

The Game Commission has released 29,100 male and 34,850 female ringnecked pheasants, total 63,950, on open hunting land in Pennsylvania so far this year.

Also liberated were 388 male and 1,706 female wild turkeys, total 2,094, during early 1962.

The ringnecks and turkeys were liberated well in advance of mating season to allow them to become acclimated to conditions in the wild, a procedure that assures greater breeding potential than when the birds are turned loose later.

Study Shows How Many Hunt What in Pennsylvania

How many licensed resident hunters seek small game, deer or bear in Pennsylvania and how many pursue both big and small game? Answers to these and other questions essential to the Game Commission in administering the state's wildlife resources were obtained through a recent study. This information will aid, also, in planning toward satisfying increasing hunting requirements in the future.

An adequate state-wide sample of the 1961 resident hunting license applications showed our sportsmen take part in the various types of hunting as follows:

1. Approximately 898,800 (95 per cent) hunt small game.
2. Approximately 782,500 (82 per cent) hunt deer.
3. Approximately 225,500 (24 per cent) hunt bear.

A further breakdown of the data reveals that:

Type Hunter	*Calculated Total Hunters*	*Per Cent Total Hunters*
Small Game Only	162,816	17.15
Deer Only	43,671	4.60
Bear Only	854	.09
Small Game, Deer and Bear	215,411	22.69
Small Game and Deer	517,404	54.50
Deer and Bear	5,981	0.63
Small Game and Bear	3,228	0.34
	949,365	100.00%



Photo by Steve Szalewicz

SPRING STOCKING of pheasants got underway in the Oil City area in early March. Shown here is Game Protector Jack Miller releasing Game Commission pheasants in Cranberry Township, Venango County.

Officers Kill Dogs Menacing Children and Game

A recent item in the Monessen newspaper, VALLEY INDEPENDENT, told how two Allegheny County Deputy Game Protectors, Milton Jarvis and Charles Tucker, dispatched the last of a wild dog pack. The animals had been frightening school children and residents in a nearby locality.

Two dogs were shot by the wildlife officers, the INDEPENDENT said, "after they were reported to have chased children from school bus stops. The mongrel dogs were the last of nine which had taken shelter in an abandoned house. . . . One dog had earlier been killed by a train, another was struck by an automobile and killed. Six others were destroyed after they chased a doe deer into the path of a P. & L. E. train," said the item.

TIPS FOR HUNTERS



That revolting development of leaving your pocket knife at the spot where the last piece of game was field dressed can be avoided. Be sure your next knife is equipped with a chain ring. Attach to it and your belt a string long enough to dress game while still attached. As you walk away, a "bang" on the shin will remind you to retrieve the knife. —*Reverend George L. Harting.*



Photo by Mark McCurdy

THESE CLIMBING COONS were born and raised in the city limits of Greenville near the photographer's home. They could be seen nightly playing and climbing this tree right in Greenville.

STOCKED RABBITS...

Taken in limited numbers

Stocked rabbits add little to the game bags of Delaware hunters. By offering a $2 reward for tags from marked cottontails, released on 2 State public hunting areas, biologists measured the effect of stocked rabbits on hunting.

Shooters took no cottontails imported from western states and liberated on the shooting grounds last winter and spring. Rabbits reared in captivity from wild stock made up 3 per cent of the total take, while those trapped outside the shooting areas and released prior to the season made up 7 per cent. None of the approaches was justified in terms of expense and return to hunters.

Studies in many states show there is no substitute for cottontails reared naturally where good food and cover exist. Habitat development is the best investment of the sportsman's dollar. *(Reprinted from April, 1962, issue of AMERICAN RIFLEMAN.)*



PGC Photo by George H. Harrison

OUTDOOR EDUCATION WORKSHOP participants observe food and cover work on State Game Lands No. 145 near Mt. Gretna. A number of state agencies cooperated in this workshop headed by Mrs. Eleanor Bennett of the State Department of Public Instruction. Nearly 30 administrative and supervisory personnel from public schools in eastern Pennsylvania attended the workshop in late March.

Jr. Conservation Camp to Open July 1

High school boys from all sections of Pennsylvania will be enrolled again this summer at the Junior Conservation Camp to be held at Stone Valley, near University Park.

The camp, which was first held in 1948, is sponsored by the Pennsylvania Federation of Sportsmen's Clubs, an affiliate of the National Wildlife Federation, in cooperation with the Pennsylvania State University.

Charles W. Stoddart, Jr., director of continuing education for the College of Physical Education and Athletics at the university, continues to serve as director for the camp.

He explains that the camp is open to boys who are freshmen or sophomores in high school during the current academic year and who have not previously attended the camp.

The Divisions of the Federation have been assigned quotas for the following dates: Southwest and Southcentral, July 1 to 14; Northwest and Northcentral, July 15 to 28; Southern and Northeast, July 29 to August 11; and Central and Southeast, August 12 to 25.

Mr. Stoddart also explained that while the majority of boys who will attend will be sent by the Divisions of the Federation, there are vacancies for other boys who may be sponsored by women's clubs, garden clubs, and other conservation agencies.

The purposes of the program are to enable boys to learn the conservation or wise use of our natural resources—soil, forests, water, minerals, and wildlife; to profit from a rich camping experience while studying conservation education; to learn to live, work, and play together; to develop interests in outdoor hobbies and activities; and to prepare young leaders in the conservation education of the various communities of the state.

It is hoped that boys attending the camp will become leaders in conservation activities in their home areas, Mr. Stoddart said.

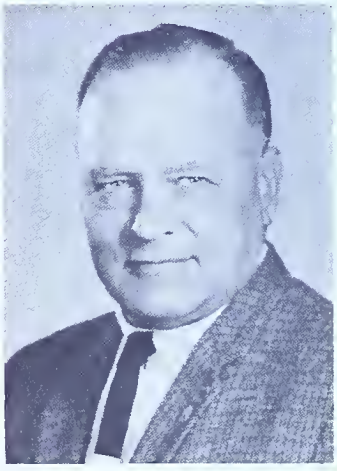
25 PENNSYLVANIA GAME COMMISSION YEAR CLUB



GERTRUDE A. REEDER
Division of Administration
Harrisburg

Miss Reeder began her Game Commission service February 2, 1937, on a per diem basis. August 1, 1937, she was appointed to a stenographic position. July 1, 1946, she was promoted to Senior Stenographic Clerk. August 1, 1956, she was appointed Clerk Stenographer II, the position she now holds.

ROBERT D. PARLAMAN
Conservation Information Assistant
Northwest Division



Mr. Parlaman began his Commission service as a Deputy Game Protector December, 1935. He enrolled as a member of the first Student Officer training class, graduating February 28, 1937. He was first appointed a Traveling Game Protector in the Southwest Division, and later a District Game Protector. September 12, 1942, until December 22, 1945, he was on military leave. He returned to his former position as District Game Protector, and from June 1, 1946, he served as Resident Instructor at the training school for the balance of that year. February 16, 1947, he was appointed Special Service Assistant until March 3, 1949. After a five-month leave of absence beginning March 4, 1949, he returned to the Game Commission September 30, 1950, in the Division of Propagation. October 1, 1950, he was appointed Conservation Information Assistant in the Northwest Division, which position he now holds.



JAMES S. ARTHURS
Civil Engineer
Brookville

Mr. Arthurs began his Commission service October 1, 1929, on a per diem basis. July 1, 1940, he was appointed Senior Assistant Game Land Engineer and worked in that capacity until he entered military service May 16, 1941. October 1, 1941, he was reinstated to his former position and again was called to active military duty January 29, 1942, returning to Commission employment January 22, 1946. His service has been continuous since that time under various titles, but engaged in the same type of work.

HUNTER SAFETY EDUCATION

Wayne County School Teaches Hunter Safety

Wayne County Game Protectors Thomas Meehan and Fred Weigelt gave a hunter safety instructors course to a group of Honesdale teachers and sportsmen who are interested in teaching hunter safety.

Among the group were the following four teachers from Damascus High School: Glenn Good, Supervising Principal; LaRue Elmore, Vocational Agriculture Instructor; Ralph Lewis, Science Teacher; and Carl Bell, Physical Education Teacher. The course was integrated in the school program via the Physical Education Department with Carl Bell as instructor. This year it is compulsory for all students in the 7th to 12th grades and will be compulsory for 7th grade students in the future. A total of 72 boys and 81 girls have completed the course.

The following clubs contributed to the success of this hunter safety program:

Lookout Sportsmen's Association
Conklin Hill Hunting Club
Boyds Mills Hunting Club
Hollister Creek Hunting Club
Tyler Hill Hunting Club

Hunter Safety Study

The Pennsylvania State University recently devised a project to determine the best method of teaching firearm and hunting safety in the schools. Dr. Frank Anthony, project leader in the Department of Agricultural Education at the university, reports that the study is underway among 4,000 students in the 7th and 8th grades in seven Pennsylvania counties. Interest among schools in other counties is growing.



PGC Photo by John Behel

HUNTER SAFETY INSTRUCTOR Carl Bell (center) conducts a safety course at Damascus High School in Wayne County as a part of his physical education program there. Game Protectors Tom Meehan and Fred Weigelt observe.

The program includes an inventory of attitudes regarding firearm and hunting safety, before and after teaching, to determine the influence of four teaching methods on attitude change. The attitude inventory is the first of its kind in the country, Dr. Anthony says.

The four types of instructional materials are: (1) slides shown with a script read by the teacher, (2) lecture-demonstration by Game Commission official, (3) combination of slides and script by teacher and lecture-demonstration by Game Commission official, and (4) lecture by teacher using a prepared text. Each method stresses the "Ten Commandments of Safety."

Financial support of the study includes $1,000 from the Pennsylvania Game Commission. Chief cooperators are the Pennsylvania Rural Safety Council, of which Dr. Anthony is executive vice-president, the Game Commission and the State Department of Public Instruction.



Photo by Elwood Grimes

GROWING UP are these young mourning doves on Boas Street. Last month's issue carried a picture of the nest and eggs of these same doves. A couple of weeks makes a big difference!

Family Relations In the Boas Street Woods

By Marian N. Baker

ALL of a sudden it is June. The rose arbors are heavy with colorful blooms, the scent of locust blossoms fills the air and the call of the strawberry vender is heard in the street together with the muted voices of his customers.



The leaves are so lush in the Boas Street Woods that, from our apartment window, we can neither see across the street nor into the depths of the trees themselves. What a transformation from the interlacing pattern of bare branches with which we had become so familiar during the winter and early spring.

Now that summer is really here suppose we revisit our winter tree friends, learn to recognize them in their green dresses and meet some of their family relations.

Botanists have classified the plant world into family groups according to the characteristics they have in common and further divided the family groups into related genera, and the genera into species to show closer ties. The genus (singular of genera) and specie's names together make up the scientific name of the plant.

Most Are Maples

Most of the trees on our street belong to the maple family. This is an easy family with which to become acquainted because it is made up of only one genus and that is the maples themselves. The name for this genus is *acer* and to this is added the name of the particular species – whatever that may be. These scientific names are in Latin or Greek and even though they seem difficult to us they provide a common language for scientists the world over.

All the trees outside our window are Norway maples (Acer platanoides) with the exception of a pear tree that peeks around the corner of the house. If you want to be sure that you have found a Norway maple, now that the leaves are out, break off a leaf and see if any milky juice exudes from the end of the petiole (the stalk of the leaf) where it was attached to the tree. If it does you can be sure your maple tree is a Norway maple. But suppose there isn't any milky juice—What then?

The maple family is represented by four members in the Boas Street Woods; the silver maple, the sycamore maple, the sugar maple and last but not least the Norway maple which outnumbers them all.

Bear Family Resemblance

All maple leaves on Boas Street bear a family resemblance in that they are simple leaves and palmately veined—that is, they are all of one piece with the veins, which can be most easily seen on the underneath side, radiating from a common point and ending in variously cut lobes. The spaces between the lobes are called sinuses and are either V-shaped or U-shaped according to the kind of maple. Of course the maple leaves, like their winter buds, are arranged oppositely on the twig.

If you have a maple leaf with a U-shaped sinus it is either the Norway maple or the sugar maple (Acer saccharum). If it doesn't have milky juice it is the sugar maple; if it does it is the Norway maple.

If you find a maple leaf with a V-shaped sinus it may be a silver maple (Acer saccharinum) or a sycamore maple (Acer pseudoplatanus). The silver maple leaves are very deeply lobed with the bases of the lobes smooth margined and parallel. Their white undersurfaces, from which the tree gets its name, are quite characteristic too. The firm-textured sycamore maple leaves are dark green with a light green undersurface, the veins of which are clothed with fine hairs along their sides.

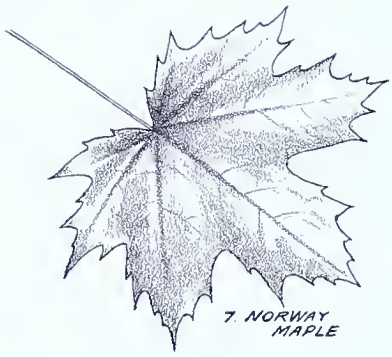
The Other Trees

There are two other trees in the Boas Street Woods, the sycamore (Platanus occidentalis) and the sweet gum (Liquidambar styraciflua), that have leaves which, at first glance, might be mistaken for those of the maples, in that they are simple and palmately veined or lobed, but this is uot enough to make them eligible for membership in the maple family.

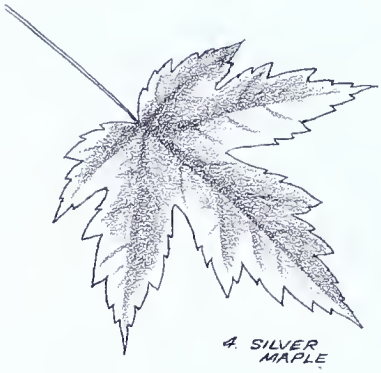
The sycamore leaves are coarser in texture than those of the maples and are arranged alternately on the stem. The base of the petiole is enlarged and hollow fitting neatly over the winter bud so that you cannot see the bud until you remove the leaf.

The sweet gum leaf is star-shaped and glossy with five to seven lobes, the edges of which are finely and evenly toothed.

Both of these trees produce their flowers and fruit in ball-like heads, but even this does not mean that they belong to the same family. The sycamore is a member of the plane-tree







family and the sweet gum of the witch-hazel family. They are the only representatives of their respective families in the Boas Street Woods.

The rose family has its useful members as well as its ornamental ones—the pear, cherry, apple and strawberry being among the former. Members of the rose family have numerous stamens which together with the petals are usually inserted on the edge of a disk that lines the calyx-tube. The leaves are alternate.

The cherry tree at the back of our house is now playing host to the birds of the neighborhood, with the robins and sparrows outnumbering the other guests. The starling that nests under the porch pays no attention to the invitation but continues to go in and out carrying cutworms and other delicacies to her clamorous young. Her trips were, on the average, one every ten minutes, in the interval during which I timed her. What would you do if you were required to find and deliver a cutworm or cabbage worm every ten minutes, rain or shine?

Fly to the Source

The mother robin has solved the problem by bringing her children to the source of supply. One top-heavy youngster, with spotted breast and wisps of infant down on its head, is sitting on the porch railing. Landing on the railing was a difficult maneuver for this little fellow. He can fly straight ahead with surprising speed for one so young, but in landing he tends to overshoot the mark and has a hard time recovering his balance. All of which shows how convenient it will be when his tail finally grows to a length that will be of some use.

A short-tailed, dull black infant belonging to the purple grackles sits quietly on the lawn while the parent birds, assisted by several visiting robins, show concern for his safety.

The tufted titmouse has built her nest in a large nesting box that our neighbors had put up for the gray squirrels. We watched the parent bird sitting in the entrance and reaching far into the cavity to feed the young. She apparently divided one mouthful of food among many hungry mouths because she reached far into the nest three or four times in succession—much like a cuckoo clock in reverse.

If you follow the scent of the locust blossoms you will come to a tree that

is festooned with grapelike clusters of creamy white flowers. After a rain the blossoms fall singly, making a white drift along the curb. If you examine one of these you will discover that it has an irregular shape like that of a sweet pea. The names given to the petals are descriptive of the curiously formed parts; the uppermost petal is the banner, the two side petals are called wings and the two lower petals are fused to form the keel, in which you will find a pistil and ten stamens. This familiar flower is the badge of the pea family, to which the locust belongs.

The locust tree has compound leaves, that is, they are not all in one piece, like the maple leaves, but rather made up of an odd number of leaflets arranged in pairs along a central midrib or rachis with the odd leaflet at the tip; the number of leaflets may vary, but it is always an odd number. The base of the petiole of this compound leaf covers the bud in much the same way as the petiole of the sycamore does, but in this case the alternate buds are sunken in the twig and further protected by pairs of sharp spines.

Leaves and Leaflets

Leaves can always be distinguished from leaflets by the fact that next year's buds develop at the base of a true leaf. Now in June these new buds are visible although they have not attained their full size. Furthermore when a leaf is removed from a twig it leaves a scar, in the case of a leaflet there is no such mark.

Just for the fun of making discoveries suppose we look for other members of the pea family in the Boas Street Woods, using the characteristics of the irregular flower with ten stamens, the compound leaf and the familiar pod. You will find that the family connections are very extensive including fifty-seven different genera. Among these are the garden peas and beans, the wisteria that climbs over our neighbor's tree, the hardy sweet



Photo by Elwood Grimes

GRAPELIKE CLUSTERS of the locust tree are most fragrant on Boas Street in June. After a rain, the blossoms fall singly, making a white drift along the curb.

peas by the garden fence, the white and yellow melilot of the weed patches and even the peanuts in the store.

Then there is the white clover which, now in June, gives the lawn a frosted appearance. The creeping stems mat among the grass and send out rootlets, but the main root of the clover plant pierces deep into the soil and taps water supplies that the grass is unable to reach. For this reason, and the fact that the matted plants reduce surface evaporation, lawns that have a quantity of clover mixed with the grass stay green through the dryest season. The roots of clover as well as those of other members of the pea family produce little nodules which harbor beneficial nitrogen-fixing bacteria. These bacteria are able to take nitrogen from the air and convert it into a form that is useful to plants.

The leaves are made up of three leaflets, each with an inverted V of lighter green at the base. Sometime you may be lucky enough to find the rarer leaf with four leaflets, the "four-leaf" clover.

The "clover blossom" is made up of many small pink or white, pealike blossoms crowded together so closely on the stem that they appear to be a globular head. The lower flowers open first and as they mature they bend down giving the flower head an hourglass appearance.



Pa. Dept. of Ag. Photo by George Sleesman

WHITE CLOVER BLOSSOMS are a common sight on Boas Street in June. The lawns form a white blanket of the small white or pink pealike blooms. Many honey bees are attracted to them during the day, but at night the clover folds its leaves as if asleep.

Remove the flowers one by one and see how many are crowded into one head. Look for the tiny seed pods concealed among the dried brown petals.

As I write, two honey bees are methodically gathering nectar from the supply of clover our yard has to offer. No blossom is too small to escape their notice. The wings of the one bee are tattered and torn; mute evidence to the fact that it has worked through the peak of the honey making season. Where have they come from? How far must they travel to reach their home? What keeps them faithful to their task? If it weren't for the ceaseless efforts of such as these there would be no ripening seeds in the pods of the clover.

Night Brings a Change

As evening approaches the bees depart and the clover folds its leaves as if to sleep. Other members of the pea family, as well as plants of entirely different families, have this ability to fold their leaves at night.

There are two other trees in the Boas Street Woods that have compound leaves, the white ash (Fraxinus americana) and the tree-of-heaven (Ailanthus altissima), neither of which could be confused with the locust. The leaflets that go to make up the ash leaf are arranged like those of the locust, that is, in pairs along the sides of the rachis with the odd leaflet at the tip, but they are much larger and fewer in number, usually five to seven. All of these leaflets are attached to the rachis or midrib of the compound leaf by short stalks.

The Ash Is an Olive

The ash tree is a member of the olive family. Other members of this family residing on Boas Street are the lilacs, the forsythia and the privet hedge; none of which has compound leaves, but show their relationship in the form of the four-petaled flowers.

The tree-of-heaven is the only representative of its family in America. It is remarkable for the size of its compound leaf which may reach a length of three feet and contain as many as forty-one leaflets. The odd number of leaflets, as in the case of the locust and ash, leaves one leaflet to grace the tip of the rachis. The leaflets are on short stalks and have a pair of gland-tipped teeth at their bases.

The American elm (Ulmus americana), the chief representative of the elm family on Boas Street, presents a different pattern in the cut of its leaf. This is a simple leaf with one

midrib running through the center from which veins emerge on either side—much like a feather. The edges are doubly serrate, that is, with large teeth pointing forward and these in turn notched with smaller teeth. One side is a bit longer than the other, giving the leaf a lopsided appearance and the upper surface is slightly rough.

Plant classifications are purely a man-made system for which the plants themselves show no concern. The elm has been in and out of several families as botanists attempt to revise their information.

SUGGESTIONS

1. With the aid of a good botany book, take a census of the plant families on your block.
2. Observe what natural foods the birds are finding in your section and make a summer menu card.
3. Look for plants that fold their leaves or close their flowers at night, like the dandelion, clover and wood sorrel.
4. Notice how the cultivated rose has been changed by man to increase the number of petals. The wild rose from which it was developed has five petals, like the apple, cherry and strawberry.
5. Collect the different types of leaves in your block. Press them between the pages of a magazine.

June Is an Ideal Month . . .

To Buy a Bow

By Tom Forbes

Photos by the Author

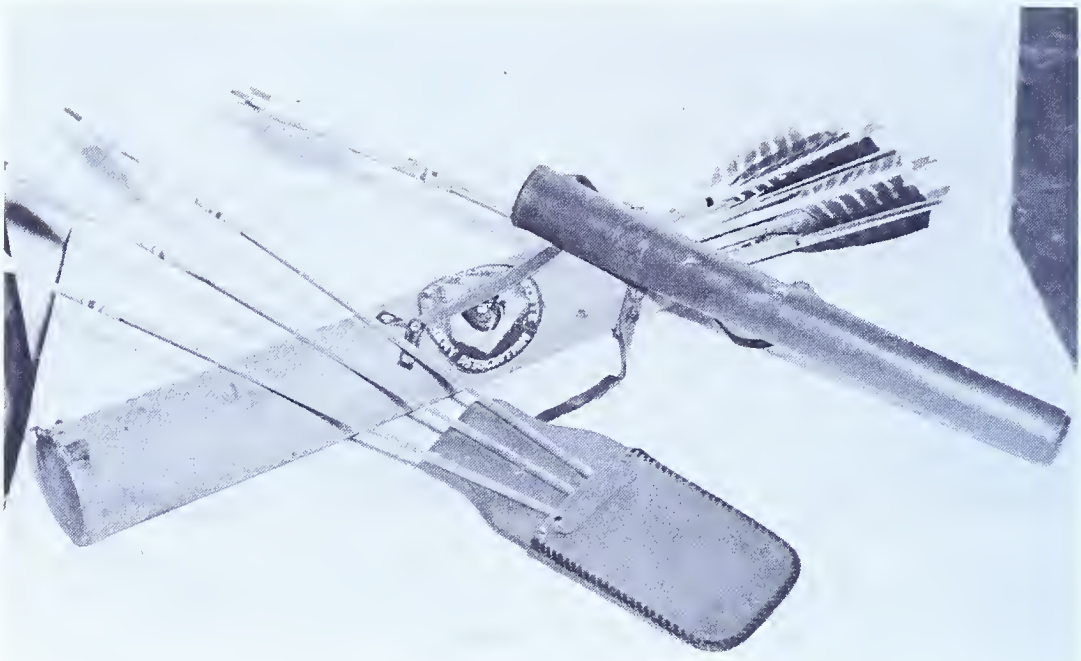
IN JUNE another school year has ended. The last day of school actually arrives and the youth of America eagerly seek recreation in the out-of-doors. Families leave for the mountains and the seashore. Nearer home the municipal and state parks provide facilities for sport and recreation. The cook out is a favorite evening pastime for the entire family and wherever space is available outdoor games assume an important part in the day's activities.

Among competitive sports, archery holds a unique position. Neither age, sex nor physical prowess bars a person from active participation. In general youth may dominate the sports scene, but in archery years are not the deciding factor and age competes on an equal basis with youth. Archery is an ideal family sport in which every member may compete and provide keen competition for the others within the family group.

Every person attracted to archery is faced with the same problem. Equipment must be purchased before the beginner is really competent to select a bow that is suitable for his use. If at all possible seek the advice of an accomplished archer on your initial purchase of equipment. Much of the pleasure which you anticipate from the sport will depend on the selection of this initial equipment.

As a first step you can obtain considerable information which will help you make a selection or a decision on your equipment by reading some of the available material on archery. Write the Robin Hood Archery Company, 215 Glenridge Avenue, Mont-





TYPICAL QUIVERS for target and field. Left is the bow hunting quiver, homemade from a mailing tube covered with leather. Center is the hip pocket quiver and right is the belt quiver used by target archers.

clair, N. J., and ask them for a copy of their catalogue. Within its pages are pictured and described bows of all the prominent manufacturers in the United States. You will find bows priced from $6 to $125. You will be amazed at the shapes, variations in length and the choice of drawing weights available. Don't be discouraged. In the high priced range these bows are for the experts. You will find that your beginner's bow is in the moderately priced range.

Draw Widths

Note that a particular bow is available in several drawing weights. This is a particularly important factor in choosing your first bow. Drawing weight is defined as the number of pounds of pull required to bring a bow to full draw position. The bowstring is drawn with the three fingers of the drawing hand. Using a proper technique you must be able to bring your bow to full draw and hold it steady in this position while you align your sight or aim at the target and release the arrow. Bows in the thirty- to thirty-five-pound class are suitable for adults and fifteen to twenty-five pounds for juveniles. A flat bow can be manufactured and retailed for a lower cost than a recurved model and is entirely suitable for the beginner.

Reading Will Help

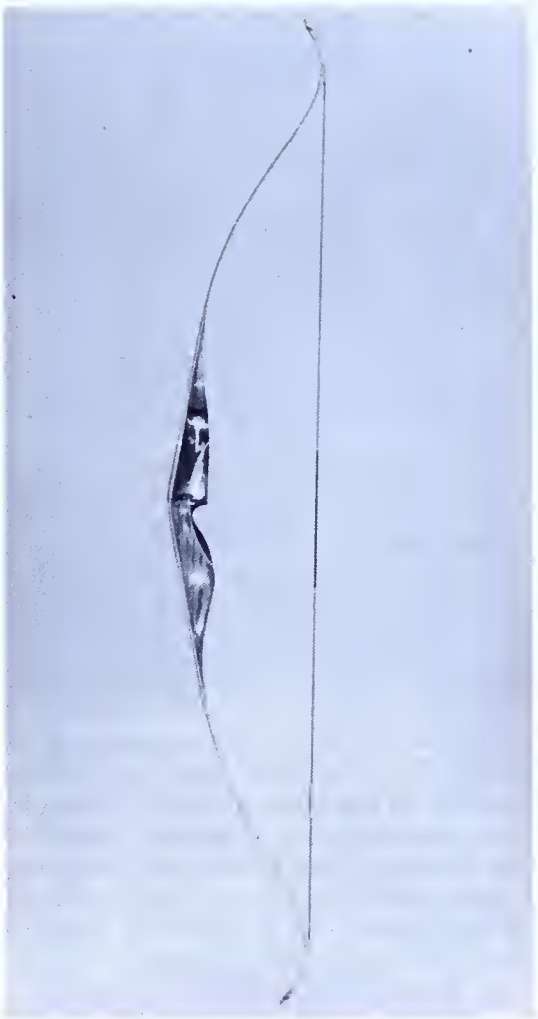
You can acquire additional information on how to select the proper tackle by selective reading of one or more of the excellent books written on the subject. You can read and study the proper technique which you should acquire in order to shoot a bow. You should learn good shooting habits from the start. Bad habits are difficult to correct and detract from the pleasure of the sport. "The Young Sportsman's Guide to Archery" by G. Howard Gillelan with its well illustrated text is an excellent introduction to the sport of archery. "New Guide to Better Archery" is a complete handbook of the sport. It was written by the author and is now available in a paper-backed edition. The standard

edition of these books may be purchased from Robin Hood Archery Company.

When you have been fitted with the proper bow you are ready to select your arrows. Materials from which arrows are manufactured are wood, fiberglass, and aluminum. Aluminum is the material preferred by the topflight tournament archers and is the most expensive arrow. Your primary need is a good durable practice arrow which will stand rough usage and an arrow that can be purchased at a modest cost. Arrows made from Port Orford cedar fit these conditions. You are bound to lose a few at the start and they can be readily replaced at a small cost. The arrow you purchase must be of a length which fits you as an individual and in addition it must be chosen to suit the drawing weight of your bow.

You can determine the length of the arrow you require by either of two accepted methods. Hold your arms straight out in front of you with your palms together. The distance measured on a yardstick from your breastbone to the ends of your finger tips is the length of arrow that you require. The length of a target arrow is measured from the bottom of the nock to the base of the metal tip. It is suggested that you select target arrows for your first purchase as the points do less damage to target faces than blunts or field points. The second method for selecting the proper length of arrows is to extend your arms full length to the sides and measure this spread distance from finger tip to finger tip. The proper length of arrow can be determined from the following table:

Spread Measurement	*Arrow Length*
57-59″	22-23″
60-62″	23-24″
63-65″	24-25″
66-68″	25-26″
69-71″	26-27″
72-74″	27-28″
75-77″	28-29″
Over 77″	30″



RECURVED BOW with a pistol grip. This is a popular grip used by present-day archers.

The proper arrow for your bow must meet one more condition. It must be "spined" to the drawing weight of your bow. Spine may be an unfamiliar word to you but it means simply the resistance an arrow has to bending. Another way to define the term is to say that it is the measure of stiffness of the shaft. A properly spined arrow bends as it passes the side of the bow when the arrow is released from a full draw position. Upon release the string returns to the center of the bow limb. As long as the arrow nock is in contact with the string the rear of the shaft will travel along the true center line of the bow limb. The result is that the arrow, if it were rigid would veer to the left of the line



FULL DRAW using the high anchor. These three archers are using modern recurved bows and the drawing hand is in the high anchor position.

of sight for a right-handed bowman. An arrow properly spined for the drawing weight of your bow actually bends as it passes the side of the bow and when free of the arrow rest it straightens out and flies on a line parallel to the line of sight. An arrow that does not have sufficient spine for the drawing weight of your bow can cause painful injuries to the bow hand of the archer. As it bends in passing the bow limb it may reach the breaking point. When this happens the break occurs at the bow and a piece of the shaft may be driven into the bow hand of the archer.

Therefore when you select your wooden shafts you make certain that they are the required length for you and that they are spined for the drawing weight of your bow. Arrows of this quality are termed "matched" arrows and they are well worth their additional cost over the run of the mill arrows which are sold at a price. You cannot expect consistent groups on the target face unless you use matched arrows. As you acquire ability as an archer you will become more selective in your arrows as you will want each of the arrows in your set to have the same flight characteristics as the other arrows. When you have acquired good shooting form you can rack up passable scores with a low priced flat bow but it is impossible to attain any consistent accuracy with unmatched arrows.

The additional items of tackle may be purchased by the beginner solely on a price basis. A shooting tab or shooting glove is worn on the bow hand to protect the fingers of the archer. The tab may be purchased for $.75 in any one of a dozen varieties. The shooting glove is priced from $1.65 to $3.25. All of them will perform satisfactorily and are a matter of individual preference. An arm guard is used to protect the inside of the forearm of the bow hand. When the bow is held properly the bowstring will strike this portion of the forearm and a painful bruise will result unless an arm guard is used. Arm guards range in price from $.85 to $4. Buy one that suits your fancy and pocketbook.

To complete your outfit you need one more item; something in which to carry your arrows. It is called a "quiver" and quivers come in an endless variety. There are shoulder quivers, or as they are sometimes called, back quivers, belt quivers, pocket quivers, and bow quivers. You may decide to do it yourself and make a belt quiver from a cardboard mailing tube or you may decide to splurge and buy a handsome shoulder quiver costing $30. Again it is a matter of individual choice and the state of your pocketbook. A hip pocket quiver which retails for $1.75 is adequate for practice. Later you may select a different type for use on the field course or in the hunting field.

A final word of caution. Don't spend a lot of money on your initial equipment. When you have learned the rudiments of the sport you will be in much better position to select the equipment that meets your particular requirements.

If there is an archery club in your locality contact one of the members. Any archer will be happy to advise and help you make your initial purchases.



THE PONDEROUS .45-CAL. FLINTLOCK. Note the smoke and flames from the powder pan nearly as pronounced as at the muzzle. Slow ignition requires steady concentration to obtain extreme accuracy from flinters.

It Was Cold and Windy
But Not a Dull Moment...

Shartlesville Area Shooters Uphold a Tradition

By Jim Varner
Photos by the Author

DURING the present era of tense international uncertainty, interspersed with intricate subversive activity coming to light nationally, it behooves us to be more alert than even our stalwart pioneering forebears.



The present tendency of thinking in matter-of-fact terms by the masses is disturbing to say the least. Are we rapidly developing an attitude of inferiority helplessness?

One finds himself pondering over such questions frequently and we are sure the readers who cherish our American heritage feel the same way. It is refreshing to mingle with a group who have the interests of the homeland at heart and their "feet-on-the-ground," so to speak. Today, the ones dedicated to staunchly upholding our

national prestige are friends of which to be proud.

Last November Mrs. Varner and I had the privilege of being guests of the Blue Mountain Muzzle Loading Rifle Association during their annual banquet and firearm display at the Haag Hotel, Shartlesville, Pa. My part in their program consisted of showing wildlife movies. We stayed in the area that night and attended their shoot the next day. This was conducted at their clubhouse and rifle range some two miles south of the village of Shartlesville. The day was a raw and chilly one but the hospitality of our hosts more than overcame the cold and wind. There were no dull moments.

Personnel Above Average

Like our North-South Skirmishers and other patriotic organizations who keep alive the traditions of 1776 and 1861, we find the personnel of these clubs well above average. They make one wish for thousands like them instead of the small groups we have. Just a little imagination used while one watches their serious, careful handling of those historic old arms takes you back to a time when such rifles meant the difference between life and death, or possibly food or famine. It is our duty to keep alive that indomitable "never-to-be-conquered" complex.

Favored the Flintlock

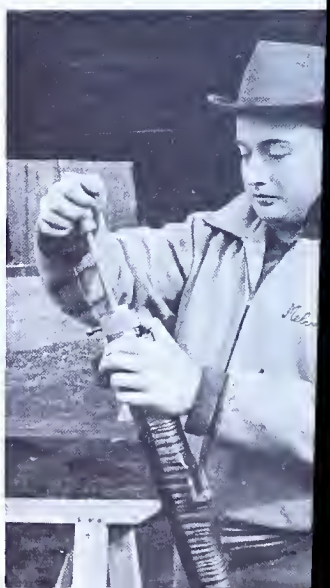
The Blue Mountain Riflemen favor the flintlock for most of their shooting. This does not mean percussion arms are not used, as some very fine ones were on the line. The long, graceful Kentucky Rifle in sporting rifle design, both flint and percussion, in calibers from .32 to .45 seem to be preferred. A few larger calibers, up to .60 also were being fired. Bench-rest versions in .45 to .50 caliber weighing up to 50 pounds with huge super accurate barrels added a unique feature to the contest. These heavyweights used 100 grains of black powder or over back of a light round ball or carefully swaged slug. Accuracy obtained was unbelievable.

Why does the writer delve upon a firearm that was developed 150 or more years ago? Why do men seek pleasure in shooting an ancient arm supposed to be "dead?" Our suggestion is to take time out long enough from your blaring, mixed up TV's and radios to read and understand the courage of the men who developed

LOADING SEQUENCE is shown here by Melvin Riehl as he carefully loads his father's big Bench-rest .45-caliber flintlock. It carries a light round ball ahead of 100 grains of black powder. After he pours powder, he seats ball on greased patch on false muzzle; then he starts ball by gently tapping after patch is trimmed. He used short ram to force bullet through false muzzle, then seats bullet on powder charge with long ramrod.









BLUE MT. MUZZLE LOADERS are displaying their four different types of sporting arms here. Left to right are Wilmer Riehl; M. D'Ambrosio, Vice-President; Lee Hiester, Sec.-Treas. (bench rifle); George Dech, President; and Frank Reed. These are the kind of rifles that played havoc at the Battle of New Orleans.

the American flintlock rifle, carved out a free land and handed it down to you with no strings attached. Would the average modern day man or woman be capable of doing one-third as well? Remember the privileges we enjoy were handed down to us. We created no part of them.

The Early Flintlock

Most of our readers who shoot or hunt with a firearm know something about the early flintlock rifle used by the Blue Mountain Riflemen. It was originally designed and made in the rather crude shops of our Lancaster County, Pennsylvania, area by men bearing the names of Henry E. Leman, Philip Lefevre, William Henry, Daniel Bayer, Thomas Butler and others. James Golcher, near Philadelphia, made both flinters and percussion but probably came after the early one mentioned above.

According to the most authentic records obtainable, the early migration of Swiss and German immigrants coming into Penn's colony had among them skilled craftsmen who were soon to revolutionize the short heavy rifled European Yeagers by reducing the caliber, using longer, lighter barrels, which in turn developed greater accuracy at longer ranges. Somehow this outstanding frontier developed firearm became known as the Kentucky Rifle when it should have been the Pennsylvania Rifle. Despite the fine accuracy of the Pennsylvania Rifle it was frowned upon by ordnance departments in both England and the Colonies. Their objection was its rather frail makeup, no provision for a bayonet and the fact it took an expert to handle it successfully. England stuck to the inaccurate club of a Brown Bess musket for nearly two hundred years. We were about as inept down through the centuries when one considers we went into the Civil War using such "clucks" as the old Harpers Ferry Musket, and into the war with Spain using the single-shot 45/70 black-powder Springfield while they had bolt action repeating Mausers firing the splendid 7-mm smokeless cartridge—a good cartridge even today.

While the long, slender and comparatively light Pennsylvania Rifle did not suit the demands of the professional soldier of the era, it did fill the demands of the pioneer, the "trail blazer," the trapper and frontier scout. Its uncanny accuracy made it possible for the shooter to kill an enemy or big game just as quickly with a high velocity .36- to 45-caliber light, round ball as if he had used the clumsy Yeager Rifle or ponderous smoothbore musket throwing balls three to four times as heavy and requiring two to three times as much powder. A brief comparison here may help explain the subject at hand. A light .36 calibered round ball weighed 68 grains, which meant 103 balls to the pound. The favored .45-caliber ball weighed 140 grains, or approximately 50 to the pound, while the big .50's (½-inch) weighed 184 grains, or 38 per pound. The heavy Yeagers and smoothbore muskets ranged from .65- to .75-caliber which meant balls that ran 14 to 12 to the pound, respectively, with black powder charges in proportion. All of this meant a definite advantage for the man who strayed a long distance from headquarters. He was not burdened with ammunition to the point there was no room for food and a change of clothes.

Rifles in Battle

Despite its military handicap features, several contingents of riflemen sharpshooters were formed who gave a stirring account of their deeds with the long Pennsylvania hunting rifle. These backwoodsmen were shifty and cunning in battle. Some of their tactics were borrowed from the native Indian. They believed in shooting from cover, disappear, reload, then "sock" their opponents from an entirely different angle. If they were forced to come to close quarters, a long Bowie knife or tomahawk-type hatchet was generally used for the last resort. Those who could afford them carried flintlock pistols. Military units armed with the Pennsylvania Rifle were called "Tomahawks," a coined phrase for an expert rifleman. Victories in the Revolutionary War at Saratoga and Kings Mountain by the American forces were attributed to the accurate fire from the "Tomahawks'" long rifled flintlocks.

Battle of New Orleans

If you ever happen to be touring in the vicinity of our second most important seaport, New Orleans, remember this is where a great battle was fought on January 8, 1815, several days after a peace treaty had been signed, stopping the war of 1812-1814. Here, you will find the remains of shallow trenches hastily thrown up by Andrew Jackson's motley array of 1,000 regulars, mostly Marines, combined with a large contingent of Pierre Lafitte's Pirates and some 2,000 Tennessee and Kentucky backwoodsmen, totaling about 5,000. The spot is at Chalmette about 9 miles southeast of New Orleans along the great Mississippi just before it makes a huge right angle bend to the west. Down there they call it the Battle of Chalmette.

During preliminary skirmishing between December 23 and the big battle, cotton bales had been used as breastworks, but due to a fire hazard they were discarded and shallow earthworks were thrown up with the sandy soil. On January 8, 1815, British General Pakenham and his men were in for a terrible surprise and defeat. His force outnumbered the defenders nearly two to one. Pakenham purposely avoided our regulars stationed on the right flank with the idea he would demoralize the woodsmen with a typical massed frontal attack with bayonets. He and 2,600 of his men never reached the shallow trenches where those keen-eyed pioneers were looking down the barrels of their long deadly accurate Pennsylvania Rifles. Authentic records of this battle show the majority of Pakenham's high ranking officers were killed and that most of the soldiers were hit in vital spots



THUMBNAIL-SIZE GROUP is shown here by Wilmer Riehl, veteran flintlock rifleman. This small group was made at 100 yards with his precision .45-caliber flintlock. This is a group that is hard to beat with any rifle.

The Americans lost eight killed and 13 wounded.

Today, this almost deserted battlefield is a monument to thousands of young Americans who gave their lives during the wars of our nation. Great southern magnolia trees seem to whisper to the men who lay beneath their eternal green foliage, and the age-old Father of Waters rolls sullenly toward the Gulf within its huge diked banks. Frequently, the deep-throated voice of national and international steamship traffic mingles with the sounds and voices of numerous birds and teeming wildlife. Patriotic Americans, DO see this shrine as we did. It is worthwhile. It will stifle any desire to criticize those who struggle to uphold our heritage.

Great Historical Importance

Whether you recall the early long muzzle-loading rifle, the Kentucky or Pennsylvania Rifle, its importance in our historical past cannot be discounted. If you have one of these fine old arms or wish to become better acquainted with them, join the Blue Mountain Muzzle Loaders on their range two miles south of Shartlesville on Route 22 for their Pennsylvania State Championship Matches June 9 or 10 or later on Sunday, June 24, when their Annual shoot is held. The Summer Special is held August 12 and their World's Championship lasts two days, October 6 and 7.

Here you will meet men who know the flintlock as well as its original designers. Several of this Club's members design and make exact duplicates of the originals out of better modern steel. They are works of art and highly accurate. Actually, the muzzle-loading firearm, both flintlock and percussion, is becoming increasingly popular in many sections of the U. S. A. Their big National Match is held at a small village in southeastern Indiana, called Friendship. The rifle range is called the Walter Kline Range. During the big shoot held usually the last of August and first of September one finds a colorful crowd from many different states, some bivouacked in light tents or trailers and others camped in nearby motels.

Velocity Tests

The velocity tests carried out by the Frankford Arsenal around 20 years ago showed that a flintlock rifle of .45 caliber shooting a round ball with 66½ grains of FFG black powder gave a velocity of 1,565 feet per second, 55 feet from the muzzle. A similar test by the University of California's Ordnance Department with a rifle of .45 cal. using 100 grains of black powder back of a round ball showed muzzle velocities up to 2,150 feet per second; 100 grains in a .45-caliber sporting arm is on the heavy side. Penetration is poor with such a charge due to the soft little bullet's mutilation. The penetration of a 210-grain round ball propelled by 80 grains of black powder from a .52-caliber flintlock was around 5½ inches. Shocking power as compared to high-powered arms is lacking, but rifles of .45 and over are good killers if handled sensibly. Very slow twist in rifling is necessary to accu-

rately spin the round lead balls. The user of such firearms must do a lot of experimenting to find the load combination suitable for his rifle.

When you visit the Blue Mountain Muzzle Loaders' matches at Shartlesville you will be impressed with the safety practiced and the type of personnel in charge all the way from their President George Dech, Secretary-Treasurer Lee Hiester, and Vice-President M. D. Ambrosio and many others. Here is one of the oldest clubs of its kind in the U. S. A. A few visits with them will start you on your way to the correct handling of the firearms that made history and gave us a heritage so precious that thousands have freely given their lives to maintain. Anyone capable of accurate marksmanship will become even better with the modern arm.

One final caution: By no means should you take a flintlock, or any muzzle-loader, into the woods unless you thoroughly understand the capabilities and limitations of the rifle. And if you do, by the shades of Simon Kenton, keep your flint sharp and your powder dry. Kenton was one of the "old boys" who could actually load a long flintlock rifle while running full speed ahead of a half dozen or so tomahawk wielders bent on adding his scalp to their collection. "Him gun always loaded," was the Indians' way of expressing their admiration of such skill—a crude way of having fun.

Too Many of Us Use Our Guns Only a Few Weeks a Year...

Summer Fun With a Gun

By Bill Clede

"SO, HUNTIN' season's over. I'm cleaning my rifle and puttin' it away for the summer." Johnny kiddingly snapped the answer back. "What's so unusual about that?"

Like all too many of us hunters, Johnny only saw his rifle a few weeks out of the year—during the hunting season. Oh, he cleans it religiously just before and again just after his annual trip, he handles it well and doesn't do badly if the game is not too far away. In short, Johnny is the epitome of a great many hunters. Perhaps he even represents you.

"You enjoy hunting, don't you Johnny?" I asked. "And you like to shoot. Here you saved up to buy that nice rifle and now you limit your enjoyment to just a few days each year. There's not much percentage in that, is there?"

He thought for a moment, then said, "I see what you mean. That little bit of use makes this a pretty expensive thing."

And how about your rifle? A hundred bucks or so is a lot of money to put out for just a few days' use. But when you consider what goes into the manufacture of a modern firearm, they aren't really expensive at all.

To make any rifle even less expensive all you have to do is use it more. A washing machine used just once turns out an expensive wash. Use it every day of the year and each laundry is cheap.

The point is that you can get a lot more fun out of your gun than just hunting, and make yourself a better shot by doing it.

All summer long rifle clubs have their ranges open for practice. They



RIFLE CLUBS need guys like Johnny and you, and frankly, you need the club more than you think. In order to get the most out of your investment in a sporting arm, you should use it the year around instead of just a few weeks in the fall.

run regular leagues, small matches and registered tournaments. They put on other types of shooting, too, like running deer matches. And that's really good practice for hunting. You learn to lead that elusive deer just the right amount to place your shot in a vital area. Don't sell the plain old bull's-eye short—it's no easy job to consistently hit even a stationary target.

Rifle clubs need guys like Johnny and you, and frankly, you need the club more than you think. After all, who raises the roof when someone proposes a law that unduly restricts the legal ownership and use of firearms? The rifle club.

And who gives us the programs, runs matches and builds the rifle range? The rifle club. Why, without the club, you might not even be able to own a gun, much less use it. The local club is worthy of your support.

Now you might be thinking the same thing Johnny thought. He protested strongly, "But I'm not very good at . . ."

"Oh nuts," I said. "We aren't all experts."

I'll bet that half of the club members shoot mediocre scores and most of the others are just learning to shoot. But the important thing is that they are learning. And you can learn too, if you want to.

"But I don't have a target rifle," Johnny argued.

That deer rifle of yours, if it has an adjustable rear sight, might be just the ticket. One of the State High Power Rifle Championships in 1955 was won with a big game hunting rifle. Even if you have a rifle that isn't accurate enough for target work, there are many shooting games you can enter. Besides, you should put a good rear sight on your rifle anyway.

"Well, I don't know any of the fellows."

Go Out and Meet Them

That's no argument. Who does know the club members until they go out and meet them. They are interested in guns, too, so it wouldn't take ten minutes to get acquainted.

No matter what argument you might propose to put off going to the club, there is an answer. You might as well put your shyness in your hip pocket, speak right out and introduce yourself.

An inquiry to the National Rifle Association, 1600 Rhode Island Avenue, N.W., Washington 6, D. C., will let you know who are the secretaries of the clubs in your town. Give them a call and find out what the club has to offer. One is likely to be located conveniently near and you might have an afternoon like Johnny recently had.

Just a Short Ride Away

We drove out to the rifle club one Saturday and he was surprised to learn that a safe place to shoot was such a short ride away. Inside the clubhouse several of the members were in a serious discussion about the relative merits of their particular favorite rifle.

Doc Joiner, a public relations-minded club member, noticed the newcomer and, after introductions,

asked, "Done much shooting?"

"I go huntin' every year," Johnny replied, "but never shot much on a range."

Doc started telling Johnny about the last club match and the conversation naturally turned to the guns they used. "Most of the guys have 270's and some have 30.06's."

"I have a 270," Johnny said. "Brought it with me. But it's not a target rifle."

Well Doc would have it no other way so Johnny got his rifle out of the car and they both went over to the firing line. We set a portable target frame out at two hundred yards and Doc showed Johnny the target shooter's prone position. It wasn't completely unfamiliar but it took several grunts and groans before Johnny got the idea.

The first shot was almost off the paper but Doc got him sighted in with a few more shots. It wasn't easy getting off those shots and Johnny wanted to make a good showing. By now he really wanted to join the club but was still too uneasy to ask.

They went down to look at the target and most of the shots were in the black. Johnny and Doc both smiled and Doc said, "Not bad, with a little practice you'll give me competition. Why don't you join our club and see how long it takes for you to beat me?"

Come on and accept Doc's invitation. Whether your name is Johnny or not, you'll have a lot of fun out at the rifle club.

Letters...

A Man's Best Hobby

I want to apply for your magazine GAME NEWS. It is the most wonderful book of news that I have ever read.

Never have I read so many good points on how to hunt the wildlife that we have in our beautiful state.

I have been hunting only three years and to me it is the best hobby a man can have. I would like to praise each and every Game Commissioner on this magazine who helps to keep it in circulation.

I will write my personal letter to my dear friend Governor Lawrence and I know that he will be pleased to hear from me.

Sincerely yours,
Louis A. Howath
412 Erie Street
McKeesport, Pa.

No Cat Control

Your article in the January issue of the Pennsylvania GAME NEWS, on feeding and caring for the wild birds, proved to be one of the most interesting I have read. Learning from your article just what appeals to each and feeding it to them has been most rewarding, but tell me, please, is there no *cat control?*

We must keep our dogs licensed and under control at all times. Why isn't there such a law for the cats? Living in the suburban area, we, like a lot of other folks, see just how destructive the cats really are, running wild, waiting for birds and rabbits to feast upon. There seems to be no limit to the number of them running loose and multiplying and the owners shun the responsibility of caring for them, even to the point of feeding them.

Mrs. M. M. Windle
Brandamore, Pa.

FOX POPULATION REVERSE

"Fox hunters are puzzled over the rise in population of the gray fox in Bedford County," says Game Protector John Troutman. "Until this year the take of grays was about one to five or six reds. Now the situation is completely reversed."

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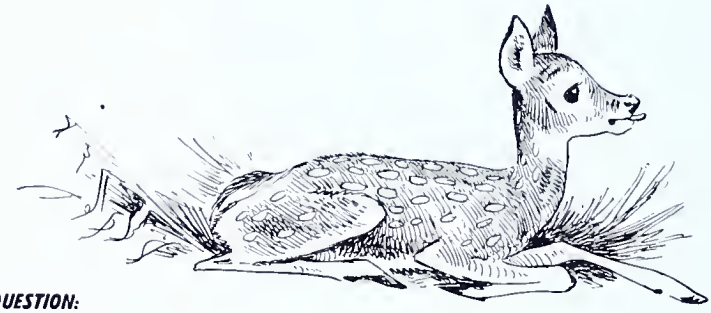
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IT'S THE LAW



QUESTION:

IS IT AGAINST THE LAW TO TAKE HOME A FAWN THAT SEEMS TO BE ABANDONED?

ANSWER:

YES, BECAUSE FAWNS ARE RARELY ABANDONED OR LOST — USUALLY THE MOTHER IS HIDING NEARBY. IF THERE IS GOOD REASON TO BELIEVE A WILD ANIMAL OR BIRD IS IN TROUBLE NOTIFY YOUR GAME PROTECTOR.

QUESTION:

THERE ARE QUITE A FEW HUCKLEBERRIES ON STATE GAME LANDS NEAR MY HOME. WOULD I BE PERMITTED TO PICK THEM?

ANSWER:

YES. HOWEVER, REMOVING FRUITS OR NUTS FROM STATE GAME LANDS IS UNLAWFUL.



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J. W. Taylor

COVER: The warbler family has been called the butterflies of the bird world. The yellow butterfly on our cover is the hooded warbler, named for the black hood which covers his crown, throat and chest. A resident of the undergrowth in Pennsylvania's woodlands, the hooded's song, "wheat-wheat-wheatio," identifies him quickly. His mate has only traces of his black hood, but her yellow and olive body gaily decorates the little cup nest a few feet from the ground.

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EDITORIAL . . .

Wanted—Game Lands

IN CASE you just happen to have a sizable tract of land suitable as Game Lands, the Game Commission would be more than happy to receive it as a gift—and it's tax deductible!

The Game Law provides for the acquisition of Game Lands by gift. A recent inquiry to the Internal Revenue Service revealed that such gifts are tax deductible. The Revenue Service statement reads as follows:

"The provisions of the law relating to the deduction of charitable contributions for Federal income tax purposes are contained in section 170 of the Internal Revenue Code of 1954, and subsection (c) thereof provides, in part, that the term 'Charitable contribution' means a contribution or gift to or for the use of . . .

"(1) A State, a Territory, a possession of the United States, or any political subdivision of any of the foregoing, or the United States or the District of Columbia, but only if the contribution or gift is made for exclusively public purposes.

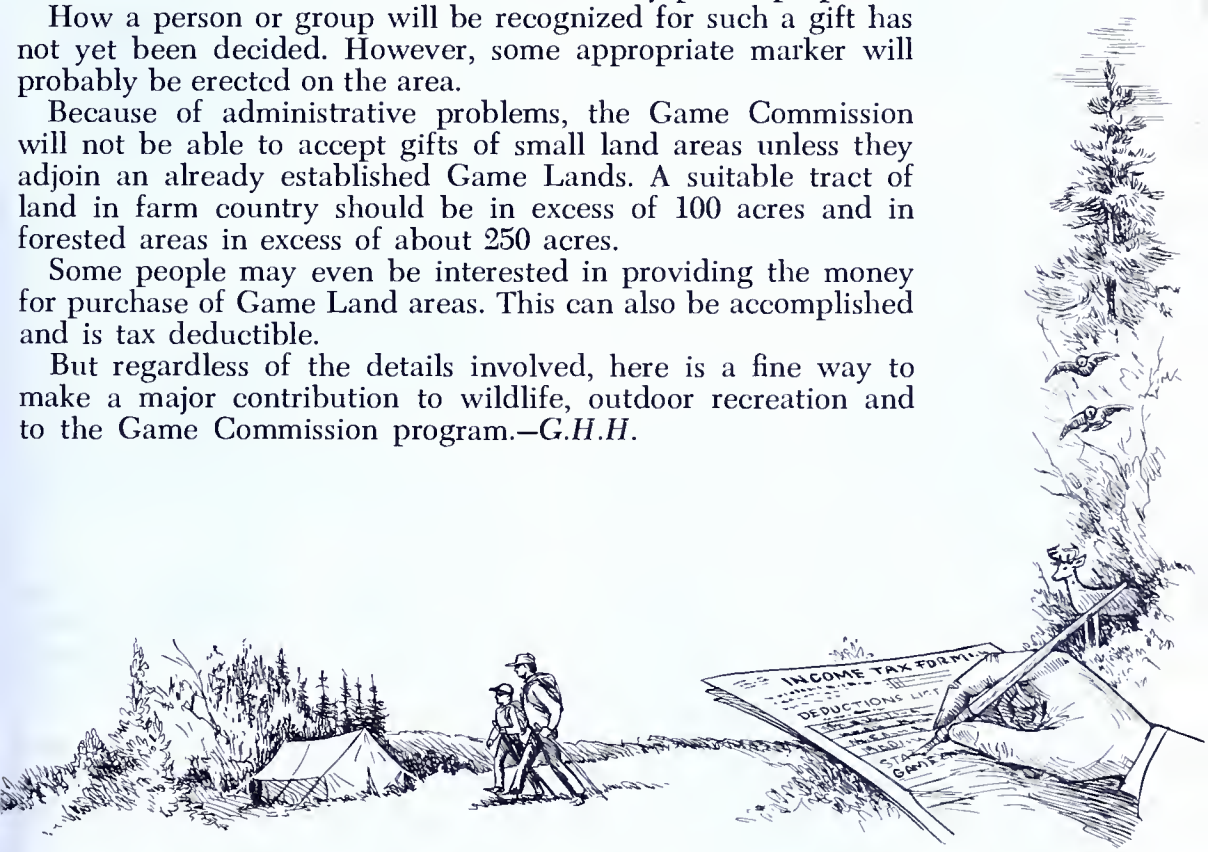
"Based upon the information submitted, it is held that contributions made to the Pennsylvania Game Commission will be deductible by donors in computing their taxable income in the manner and to the extent provided by section 170 of the 1954 Code as contributions to a State for exclusively public purposes."

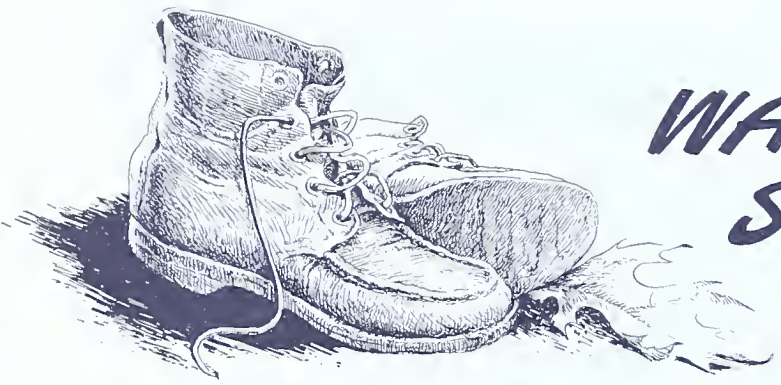
How a person or group will be recognized for such a gift has not yet been decided. However, some appropriate marker will probably be erected on the area.

Because of administrative problems, the Game Commission will not be able to accept gifts of small land areas unless they adjoin an already established Game Lands. A suitable tract of land in farm country should be in excess of 100 acres and in forested areas in excess of about 250 acres.

Some people may even be interested in providing the money for purchase of Game Land areas. This can also be accomplished and is tax deductible.

But regardless of the details involved, here is a fine way to make a major contribution to wildlife, outdoor recreation and to the Game Commission program.—*G.H.H.*





WALKIN' SHOES

By NED SMITH

Meet the Woodpecker Clan

1. What is the largest woodpecker in Pennsylvania?
2. What is the flicker's favorite food?
3. In what way are woodpeckers' tails different from those of most other birds?
4. How many Pennsylvania woodpeckers have crested heads?
5. Which woodpecker is the smallest?
6. Which looks like a larger edition of number 5?
7. Most woodpeckers have pointed, barbed tongues. Why?
8. What sort of nesting material do woodpeckers prefer?

SOMEWHERE in a tall locust tree across the creek a flicker shouted a single, piercing "Kleer!" At the sound, the young bird that had been staring blankly from the hole in the fence post snapped to attention. His brothers and sisters heard it, too, and scuffled impatiently in the depths of the hollowed-out post.

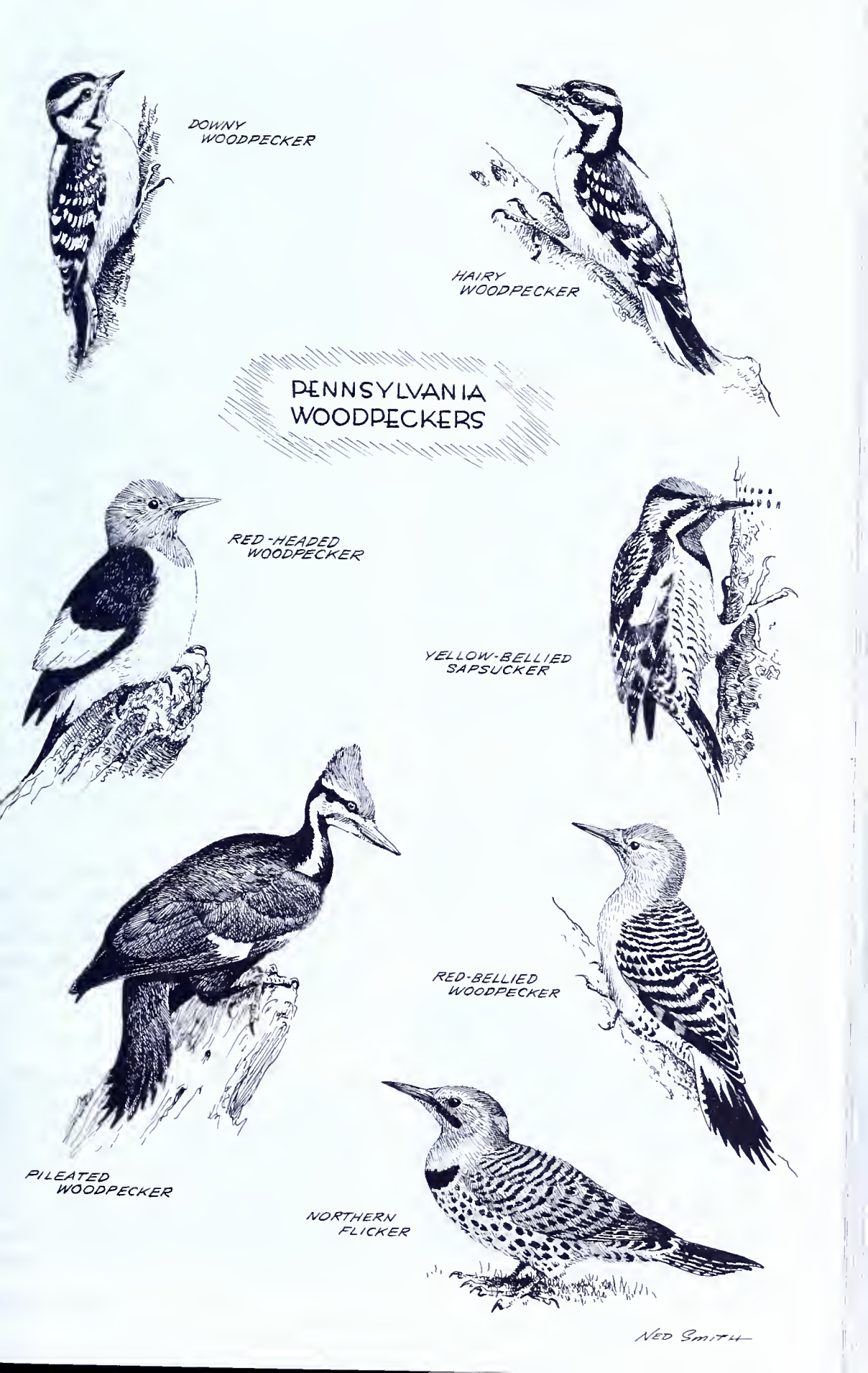
I had intended photographing these flickers before they left the nest, and it looked as though I was just in time. The young bird peering out of the hole certainly looked anxious to try his wings, and as I snapped his picture I noticed that but for the remnant of an egg tooth on the tip of his bill he could have been mistaken for an adult.

The old bird across the creek called again, and the invitation was too much for the youngster. He made a few false starts, then hunched his shoulders and leaped bravely into the air. Wings swished frantically and for a moment he threatened to crash-land in the fence row. At the last minute, though, he cleared the wire and brambles and the last I saw of him he was coming to earth near the creek.

When I looked at the nest there was another head in the doorway, but before I could focus the camera that one, too, had shoved off, cartwheeling ignominiously into the weeds a scant fifteen feet from the fence post. In a few minutes the whole brood, all five of them, had left its fence post home for good—the last woodpecker family on my notebook list to take wing that summer.

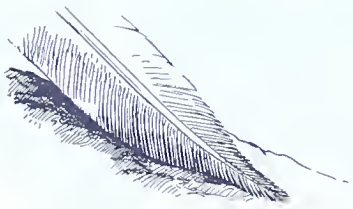
The flicker is but one member of the well-known woodpecker family. Six other species occur in Pennsylvania. All nest in our state, although some do so in limited numbers.

There's not a bird among them that doesn't deserve the name woodpecker, for they are all experts at chiseling trees and logs with their bills to ob-


DOWNY WOODPECKER
HAIRY WOODPECKER
PENNSYLVANIA WOODPECKERS
RED-HEADED WOODPECKER
YELLOW-BELLIED SAPSUCKER
RED-BELLIED WOODPECKER
PILEATED WOODPECKER
NORTHERN FLICKER
NED SMITH



BARBED TIP OF A WOODPECKER'S TONGUE



TIP OF A WOODPECKER'S TAIL FEATHER PRESSED AGAINST TREE.

tain food and form nesting holes. They are admirably specialized for such work. Their strong feet, with two toes in front and two behind, grip the bark of trees like ice tongs. The tail feathers, tipped with stiff barbs, form a non-skid prop when the bird clings to the side of a tree. The typical woodpecker bill is straight, sturdy, and chisel-shaped—perfect for making the chips fly. The tongue can be extended to a surprising length and its horny, barbed point used to harpoon borers and withdraw them from hard-to-reach places.

There's not a good vocalist in the entire woodpecker clan. The truth is, woodpeckers are all percussionists at heart, and nothing gives them greater delight than drumming out a tune on a dry, resonant tree stub. This is their song—a combination claim to nesting territory and a wolf whistle with matrimonial overtones.

All woodpeckers nest in cavities excavated by the birds themselves, but some, notably the downy woodpeckers and flickers, will nest in suitable bird houses. A woodpecker nest is a remarkable piece of workmanship. The round entrance hole begins horizontally, then abruptly turns downward into a pear-shaped cavity large enough to accommodate the incubating bird. No nesting material is brought in—the white eggs are merely laid on a bed of fine chips.

Newly hatched woodpeckers are blind, naked, helpless, and pathetically ugly, resembling miniature ostriches without feathers. Nevertheless, when fully feathered they are as cute as any young birds—proof that not all ugly ducklings turn into swans.

On rare occasions woodpeckers misapply their pecking talents. Sapsuckers have been known to kill trees, although their shallow punctures are usually of no consequence. Red-heads and red-bellied woodpeckers have been blamed for damage to orchard fruit. Flickers have been accused of pecking holes in the weatherboarding of houses and pileated woodpeckers have given utility companies fits by hacking out capacious nesting cavities in their biggest and most expensive utility poles.

Nevertheless, such destructive tendencies are rare. Woodpeckers are by nature extremely beneficial birds, feeding almost exclusively on insect larvae, pupae, and hibernating adult insects that infest our trees. The flicker, being more terrestrial than his relatives, mops up ants with single-minded determination. Their pecking ability enables them to get at insects that are perfectly safe from other birds, and the value of the service they render in controlling these destructive pests is inestimable.

More obvious are the benefits of beautiful plumage, engaging mannerisms, and raucous good nature that characterize the members of this industrious family. These are the reasons most folks enjoy having them around.

Downy Woodpecker

Our smallest woodpecker, the downy, is everyone's favorite. He is only 6½ inches long, but is built along typical woodpecker lines. Beneath, he's chiefly white. His crown, wings, ear patch, "mustache," middle tail feathers, and all but the middle of his back are black. He has a white streak down his back and the wings are

polka-dotted with white. The white outer tail feathers are marked with a few black bars. A small patch on the male's nape is bright crimson, but the female lacks this splash of color.

On winter days the downy can be seen digging his insect prey out of the usual tree bark crannies as well as such secret hideouts as goldenrod galls, mantis egg cases, and borer-ridden cornstalks.

In the spring he excavates a nesting cavity, usually in a dead stub or fence post, and raises a family of four or six little downies.

His call note is a sharp "pick," sometimes repeated in a continuous rattle.

Hairy Woodpecker

The hairy woodpecker looks so much like the smaller downy that the amateur bird watcher often finds it difficult to tell them apart. The fact that his white outer tail feathers are unbarred is little help at a distance, and even the difference in size is not always apparent. However, with practice the hairy can usually be distinguished by his lankier build and proportionately longer bill. As would be expected, his voice is much louder and sharper, too.

This woodpecker is also a year-round resident of Pennsylvania, but is less often seen in towns and around farms than his smaller cousin. He seems to prefer more extensive woodlands where his nesting cavity is usually excavated in a tree trunk. The entrance is about two inches in diameter—a half-inch larger than the downy's.

Red-Headed Woodpecker

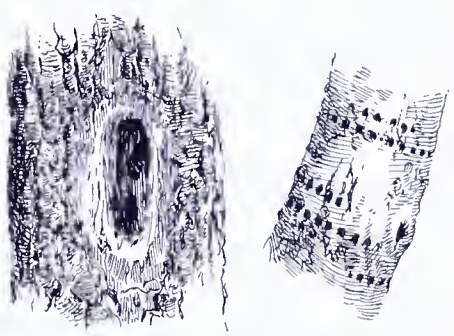
When I was a small boy I could see these gorgeous birds any day of the summer in a nearby wood lot. The blight-killed chestnut trees were riddled with their nest-holes and their loud calls were as common as the cawing of the crows. Now, due mainly to the tremendous increase in detestable starlings and their high-handed way of pre-empting nesting cavities the red-head is a rarity in many parts of the state where it was once common.

The red-head is approximately the size of a robin, but stockier in build. Its plumage is a striking combination of deep red head, neck, and upper breast, white underparts, wing patch, and rump, and blue-black back, wings and tail. In the young the red is replaced by faintly mottled brownish-gray, the rest of the plumage is similar to the adult's, but considerably barred with gray.

Yellow-Bellied Sapsucker

The rows of evenly spaced holes the sapsucker makes in the bark of trees are better known to most folks than the bird himself, for except in mating season the latter is a singularly quiet fellow. He arrives in our neighborhood early in the spring and methodically perforates the most promising trees to obtain the sap he loves so well. For days he lingers in the vicinity, making the rounds of the oozing trees like the town sot sampling the hospitality of every taproom within staggering distance. He might remain in Pennsylvania to nest, but most sapsuckers are merely passing through.

Male sapsuckers have black-bordered deep red crowns and throat patches. Their upperparts are chiefly black, with white spotting on the back,



TYPICAL FEEDING SIGN OF PILEATED WOODPECKER (LEFT) AND YELLOW-BELLIED SAPSUCKER (RIGHT)

white barring on the flight feathers, and a lengthwise white streak on the fore-wing. The undersides are white, washed with pale yellow and barred on the sides with dusky. The females are similar, but have white throats.

Red-Bellied Woodpecker

Similar in size to the red-head, this bird is rare in northern Pennsylvania but fairly common in some southern counties. It nests in these localities, too, usually choosing a wooded area to call home. Here its loud, harsh "char, char" and various flicker-like notes are often heard.

No other woodpecker resembles the red-belly. The male's underparts are warm buffy- or pinkish-gray, tinged with red on the belly. The crown and nape are brilliant red, the back and wings boldly barred with black and white. His mate is similar, but her forehead is gray instead of red.

Northern Flicker

The popular flicker is a sizable bird, larger than the robin. Its back and wings are olive-brown barred with black. The top of its head and back of its neck are gray, the rest of the head and neck are light cinnamon brown. A flaming patch of red marks the nape, and a black "mustache" is worn by the male. A conspicuous black crescent on the chest separates the neck from the paler, black-spotted breast and belly. The under surfaces of the wings and tail are bright yellow. In flight, the white rump is an excellent long-range field mark.

Although it can perch on the side of a tree trunk as well as any woodpecker and can excavate an exceedingly neat nesting cavity in solid wood, the flicker seems to prefer feeding on the ground in a most un-woodpecker-like manner, usually probing ant hills in pastures and lawns and lapping up the tiny insects with its long, sticky tongue.

It is a noisy bird. Its rapidly repeated "Cuck, cuck, cuck" and piercing "Kleer" are familiar spring and summer sounds. In pairs or groups flickers often utter an excitable "Whicka, whicka."

All parts of Pennsylvania are home to the flicker, and it nests in towns as readily as in tall, dead forest trees. A few spend their winters with us, also.

Pileated Woodpecker

Don't look for this, Pennsylvania's largest woodpecker, in small wood lots or in neighboring shade trees. It is a bird of the big woods. Here it digs its characteristic oblong holes in search of tree borers, excavates its cavernous nest cavity in a dead or living tree, and makes the woods ring with its rattling "Kuck, kuck, kuck, kuck"—a louder, jerkier version of the flicker's call.

No bird of the forests is more striking in appearance. Its black plumage is relieved by white wing linings, white patches on the upper wing surfaces, white throat, a white line over each eye and a white streak along each side of the head and neck. For contrast it sports a pointed, flaming red crest, and a red mustache mark. The female's mustache is black, as is her forehead.

Fortunately for everyone who thrills at the sight of a beautiful bird, this woodpecker can once again be seen or heard in the mountains throughout Pennsylvania.

ANSWERS TO QUESTIONS

1. **The pileated woodpecker.**
2. **Ants.**
3. **The shafts and barbs are stiff, enabling the bird to use the tail as a prop when perching on the side of a tree.**
4. **Only one—the pileated.**
5. **The downy woodpecker.**
6. **The hairy woodpecker.**
7. **To impale borers and withdraw them from their burrows.**
8. **They use only a layer of small chips that accumulate in the cavity.**

Land Management Is Our Life



PGC Photo by Ray Shaver

EQUIPMENT NECESSARY for the moving, cultivating, and seeding of the earth is an important part of the land management division. The Commission operates 80 units of farming equipment, each consisting of a tractor and the various implements required to plow, prepare, plant and harvest crops.

An Important Task of the Pennsylvania Game Commission

By C. C. Freeburn
Chief, Division of Land Management

LAND management work, designed to provide optimum food and cover conditions for game, is one of the most interesting challenges available to anyone. To "spearhead" such work is even more rewarding.

Birth of a New Game Lands

Our work starts with the purchase of areas which finally become a portion of or one of the State Game Lands which now comprise more than 950,000 acres in 215 tracts located in 64 of the 67 counties of the state.

These acquisitions are initiated, as a rule, by one of our field officers who obtains an option for purchase from the owner. The officer then makes a land examination report which gives many details on the tract concerned. He also makes a recommendation as to whether or not it should be purchased as well as what he considers is the maximum price which should be paid for it. The option forms, land examination reports and recommendations are sent to Harrisburg via his field division office.

The option and other information are reviewed by the staff and further examinations made when necessary. It is then presented to the Commission at one of its regular meetings. If the



PGC Photo by Will Johns

GAME LAND SIGNS are placed in prominent places along highways throughout the state, showing the public where the Commission-owned lands are located. Mileage signs at busy highway intersections are also helpful to the sportsman en route to a nearby Game Lands area.

option is accepted, an abstractor, generally an attorney in the county in which the tract is located, is asked to prepare an abstract for the area. This is a rather complicated procedure as all transactions concerning this property must be traced back to the original grant from the Commonwealth. All objections, liens, etc., must be removed. When the abstract is received it is sent to the attorney general's office for approval. Upon approval, plans are made to survey the area. Because there is usually a backlog of tracts to be surveyed, there may be some delay in completing this phase of the acquisition process.

When the survey and all title work are completed to the satisfaction of all concerned, the Game Commission plans for the final settlement. First a voucher is prepared and sent to the fiscal departments, requesting that they issue a check for payment of the contracted price. The check is then sent to the abstractor together with notification to the owner of the tract. A meeting is arranged at which time the deed to the property is signed over to the Commonwealth and the vendor receives his payment.

Usually a Delay

As a rule persons offering land to the Game Commission cannot understand the delay between the time the option is accepted by the Commission and the time payment is received for the tract. It may be necessary for the offerers to pay taxes for a longer period than originally anticipated. The Commission is just as interested as they are to have the transaction completed as rapidly as possible, and always works for early settlements. However, title defects, heavy work schedules, bad weather and other factors may result in delay.

When the Commission takes possession, a management plan must be developed. If it is a forested area, a timber inventory is our first step. This shows timber types, age classes, slopes, volumes, etc. From this, a management plan is made for the production of maximum continuous crops of wildlife and timber.

Takes Time and Work

Making the timber survey and drawing up the plan requires much time and work and accomplishing these tasks is often hampered by a lack of personnel both in number and in professional training ability. While we are moving ahead with the few trained foresters we have, it will be some time until all forested game lands are inventoried and management plans prepared.

Development for farm game is somewhat easier. We have plenty of men with the proper "know how," as well as sufficient equipment. Also, the plans are easier to make and to carry



PGC Photo by George H. Harrison

HOWARD NURSERY is the Game Commission installation in Centre County where 5,000,000 or more shrubs and trees are produced annually. Nursery Superintendent George Weller (left) directs the placing of sawdust on newly planted seeds.

out. The Commission operates 80 units of farming equipment, each consisting of a tractor and the various implements required to plow, prepare, plant and harvest crops.

Many of our fields are managed on four- or five-year rotations and clovers are usually the final crop. Once clover is established it can be mowed and maintained for several years. Several species of wildlife graze on the clover while others are attracted by the insect life abounding in clover fields.

The Commission divides the state into six field divisions for efficient administration. The land as well as the climate is somewhat different in each. A procedure which is satisfactory or solves the problem at one location is of no benefit at many others. Hence, experience is required and over the years we have learned the best methods for developing conditions beneficial to wildlife at any given location in the state.

Wildlife is a product of edges. Edges are created wherever you have two different types of growth. Such as, between wood lots or forest land and fields or other open land, also along the sides of roads, trails, and rights-of-ways.

Cutting is often necessary to provide desirable edge effect and brushy areas. Both men and equipment are needed to carry on this work and at the present time the Commission utilizes about 325 men in its land management program. About 150 power saws are used in the cutting program. Border cuttings are made on lands owned by the Commission as well as farm game projects with the consent of the individual owners.

Clear cuttings and release cuttings in forested areas are accomplished throughout the winter. These provide cover for game birds and browse for deer at the most crucial period of the year.

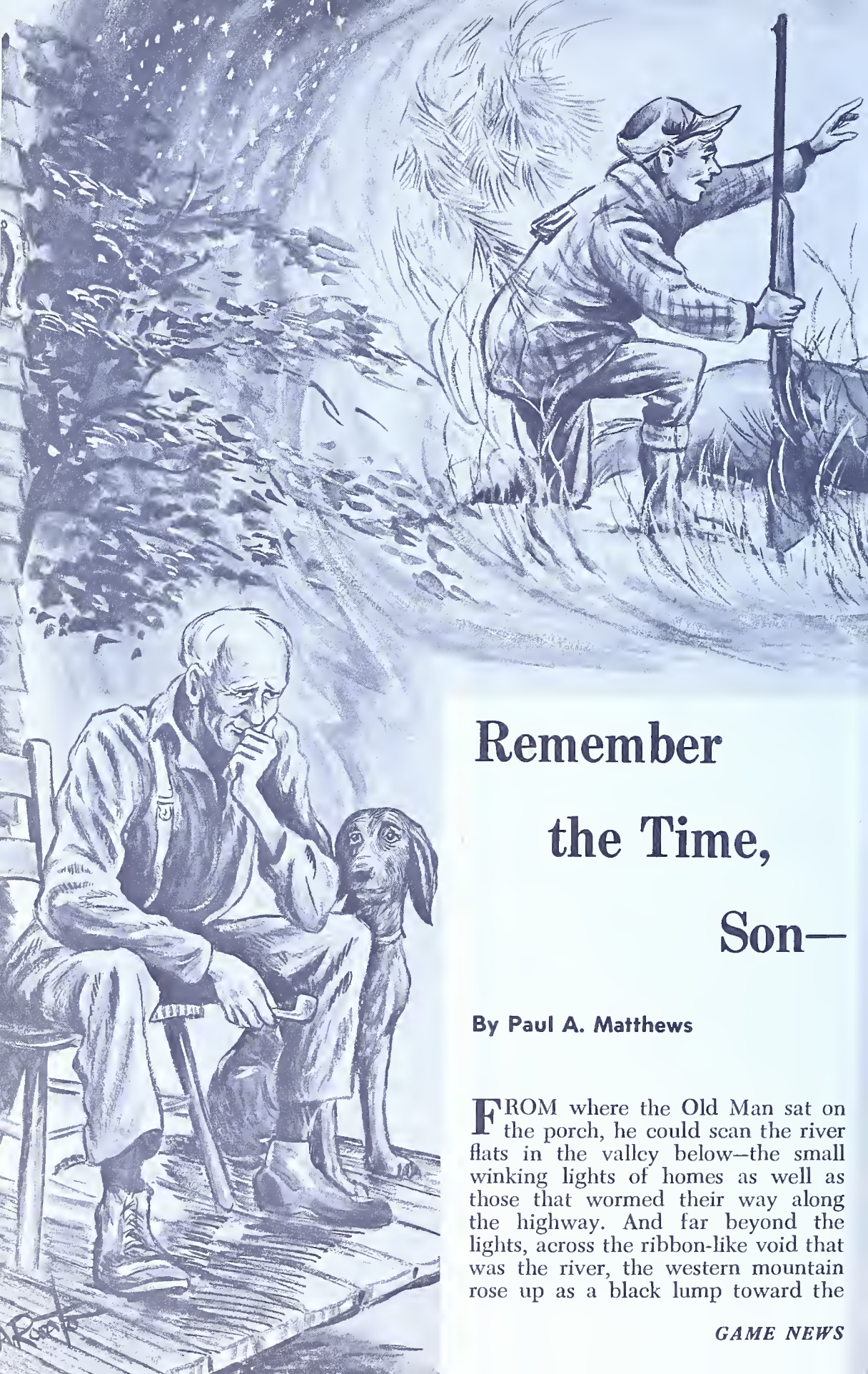
The Commission also operates a tree and shrub nursery where 5,000,000 or more seedlings are produced annually. These are planted to provide both food and cover for game. Many seedlings are utilized by farm game cooperators, Boy Scouts, sportsmen's groups, soil conservation districts, etc.

These are just a few of the many work phases of the Commission's land management program. In addition, roads and fire trails are built and maintained; refuge and boundary lines established and maintained; rights-of-ways acquired and maintained; boundary disputes settled; safety zones established and dismantled on farm game projects; cooperators secured for other Commission programs; and other duties almost too numerous to mention.

The accomplishments of this work are rewarding and we can anticipate new accomplishments and new friends each year. Generally, criticisms or complaints occur because we have not explained or publicized our work as much as we should and the critic or complainant is inadequately informed.

The Pennsylvania Game Commission is doing everything humanly and economically possible on lands which it owns or controls to provide optimum conditions for all species of wildlife without neglecting the other aspects of overall "CONSERVATION."

This is our life's work in the Division of Land Management and we are devoted to it.



Remember the Time, Son—

By Paul A. Matthews

FROM where the Old Man sat on the porch, he could scan the river flats in the valley below—the small winking lights of homes as well as those that wormed their way along the highway. And far beyond the lights, across the ribbon-like void that was the river, the western mountain rose up as a black lump toward the

stars that appeared and disappeared intermittently behind the clouds. There were millions of stars up there, the Old Man thought, millions and billions of 'em that he had looked at for nigh onto eighty years, always wondering at the Force that had put them there and always with the thought that on some of them, people were looking back at him and thinking the same thoughts. And sometimes he looked at the stars for so long and so intently that his stomach felt a lightness—almost as though he was weightless and was hurtling outward through space. It would seem as though he'd really left the old shack for good, and then he'd slip back into reality again with a quick start and maybe grin a bit foolishly and look around to make certain that no one had come up behind while he was daydreaming.

What a Chorus

He thumped his pipe against his hand, rolling the charred ball of dottle in his palm before throwing it into the weeds where the katydids and crickets sawed away on their built-in banjos in the same way they'd been doing since Time began. What a chorus, he thought. Crickets and katydids and peep-toads, hoot owls and whippoorwills—who could name them all? He couldn't and he'd been around the woods an' fields an' swamps for a lifetime.

He blew through the pipe stem to clear it of tobacco fragments and then wearily filled it again from a stained cloth bag that had occupied his hip pocket for more years than he cared to remember. He scraped a kitchen match along the board step, sucking the flame into the pipe bowl and blowing voluminous clouds of smoke at the punkies that hovered about in a dark cloud. Far out across the valley, even beyond the horizon that was marked up the upper ledges of the western mountain, the sky flickered and glowed like a fluorescent lamp of uncertain dependability. It flashed luridly, silhouetting the mountain in naked outline for only an instant before swathing it in pitch blackness again.

"Heat lightnin'," the Old Man muttered reaching out to lay his hand on the hound. "Heat lightnin' an' a south wind to boot. 'Fore mornin' it'll rain."

Light in the Valley

The hound snuggled closer, laying his head across the Old Man's lap and the two of them watched the night and listened to the sounds about them. Down in the valley an outside light blinked on. Brighter than all the others around it, the Old Man was quick to spot it for, indeed, he had been watching and waiting and hoping.

"Got to get the coffee on," he told the dog. "Jim's comin'."

Inside the shack, he lighted an old kerosene lamp, trimming the wick until the fine curl of black smoke disappeared and the flame burned with an orange-yellow hue and a sharply defined periphery. It cast an oval shadow on the ceiling—a shadow that wavered with each stir of air—and on the far side of the room, beyond the reaches of the lamplight, the old woodbox appeared cavernous, black and empty. He touched a match to the circular wick on the oil stove, closing the small isinglass door of the chimney and watching the flame as it crawled around the ring of asbestos nibbling at the oil seepage like a thing alive. And then he placed a saucepan of water over the burner, dumping in a small handful of coffee that floated around like toasted sawdust. This was "woods coffee" as he called it. "No durn percolated or drip stuff" that was never much more than discolored water with a mite of flavoring.

The Same Old Car

He smiled pleasantly to himself at the first sound of the car engine laboring up the hill—the same old Model

A that he'd bought for Jim when he first learned to drive twenty-five years ago. Oh, there'd been other cars since then, and even now Jim had one of those long sleek jobs that looked like it would take two men and a boy to handle it. But when he came to see the Old Man, he'd be drivin' the Model A, because it was almost as sacred to them as the old hound or the double-barreled Lefever in the corner. It seemed like they had almost grown up together.

A Lot of Growin'

Come to think about it, they had done a lot of growin' up together—the Old Man and Jim—even though the Old Man was walkin' on the downhill side of forty when Jim was still wearin' diapers. Sounds funny, he thought, looking out of the window, but that's the way it is. A man never attains his full growth unless he stops right in the middle of life and starts to live over again through the words and actions and mind of a son.

Their First Deer Hunt

Take the first time they went deer hunting together nigh onto thirty years ago—Jim was a gangling lad of fourteen steering an old Colt Lightning 44/40 through the brush like it was a cane pole in an elder patch. On that long ago day the Old Man had never thought for a minute that the boy would really get a deer; he just took him along like any father would. And as he thought back over the years he could still remember his remark of the day before. "I'll take the boy along," he had said. "He probably won't see anything, much less get a shot. But at least he won't be able to say that his Dad never took him huntin'."

And that's the way it was. And when they got to the mountain, the Old Man had put him on a watch sayin', "stay here till I get back, boy. It's jest as good a place as any."

Two hours later—just when the Old Man had all but forgotten about Jim—the old Colt trombone started to unwind. It sounded for all the world like a hand-cranked Gatling with a fourteen-shot magazine, and about thirty seconds after the last of the echoes died away somewheres along the ledges of Bear Trap Hollow, Jim let out a yelp that cut the Old Man to the quick of his heart.

"I got 'im Dad," he cried. "An' he's a whopper!"

The Old Man never forgot that day—never forgot the way Jim grinned and the way his eyes glistened when he held that ten-point rack and looked up at the Old Man.

"You never thought I'd get a buck, did you Dad? But I did! He come right up through that little hollow over there an' I put the sights on 'im an' kept shootin' until the gun was empty. I wasn't going to miss him—not by a darn sight!"

Yes, those few words—simple words spoken with a straight forwardness that only a kid can muster—hammered at the core of the Old Man's soul. In those few seconds he relived the day when he'd shot his first deer, and he remembered only too vividly that stomach-raising surge of exhilaration that had swept through him. And yet here he had taken his son on his first deer hunt—not as an equal, but as a tagalong; not because he really wanted to, but because it was the thing to do. And on that long-ago day, the Old Man had swallowed at the lump in his throat and stuck out his hand—grimy and callused from the labor of years—to shake hands with a youth who had proved himself.

Yes, that was a long time back—close onto thirty years ago—but the Old Man never forgot it. And many a time later on he secretly thanked the Almighty for opening his eyes to the fact that the biggest things in life aren't those that we accomplish for ourselves, but those in which we are able to impart some bit of knowledge—some feeling of belonging—to another who walks the trails behind us.

From that day on, the Old Man did nothing that couldn't be shared with the boy; and each individual achievement, no matter how small, was an achievement for both of them.

He taught the boy the fine points of marksmanship—the little things like trigger squeeze and sight picture and stance—things that a man is apt to take for granted, not realizing that he actually spent years in learning. These were the bits of knowledge that gave the lad incentive—gave him a feeling of pride and accomplishment when he had mastered them. These were the things that made the lad stand tall —made him feel as though he was a partner and not a parcel.

And then, of course, as the two of them started sharing, the Old Man was forced into new paths of thought because the boy was inquisitive and eager to learn. He remembered the time when they'd been hand-loading lead bullets for the 38/56, and how, after months of frustrating efforts to develop a reasonably powerful load that didn't lead the barrel, the boy finally came up with the idea of rolling the lubricated bullets in a cylindrical oat meal box with a few tablespoonfuls of powdered graphite. This not only imparted a durable surface lubricant to the rotating bands, but also covered the grease in the grooves so that the ammunition could be carried in the pocket without bits of lint and grit adhering to the bullet.

Yes, it made the Old Man smile when he thought back over the years —made him swell up just a bit with the realization that he had made a contribution to society, that he'd left his mark on this world just as certain as though he'd made a hand print in wet cement and let it harden so that it was preserved for the ages to come. And as he poured the woods coffee into the stained mugs, he marveled at the simplicity of life—how easy it was for a man to acquire a richness in life merely by sharing his experiences with another of his own blood—the feeling of satisfaction it gave a man during those barren years in the late evening of life to look back and say, "remember the time, son, when we hunted over back of Huckleberry Ridge an' the snow was boot high an' the wind was ablowin' an'—!"

Yes, the Old Man remembered—and Jim would remember—always!





Photo by Grant Heilman

THE QUALITY OF THE GROWING conditions on any tract of land influences the production of agricultural and game crops. As growing conditions are improved for a specific crop, so too must conditions be improved for the production of a game crop such as rabbits.

Rabbits Respond Rapidly . . .

Improved Standard of Living Pays Off

By Dale E. Sheffer
Game Biologist

RECORDS show that from the standpoint of numbers killed and hunter participation, the cottontail rabbit is the most important small game species in Pennsylvania. Most hunters, however, have not taken the time to think seriously about living conditions for rabbits. Too many hunters feel rabbits should be "everywhere," regardless of the basic conditions for the growing of a good crop of cottontails. Also, too many hunters mistakenly believe that the sole solution to more rabbits is "restocking." Unfortunately, until more hunters recognize that living conditions have more impact on rabbit production and survival than any other factor—and do something about it, they are "missing the boat" as far as practical cottontail management is concerned.

The ever-increasing demand on rabbits for recreation through hunting and beagling has led to a variety of studies, including investigations of laws and regulations, refuges, propa-

gation, restocking and habitat improvement. Based on the information obtained to date, the practical way to increase the supply of rabbits is to establish and improve places where they can live; conversely, the quickest way to ruin rabbit production is to reverse the process. We know that more and more hunters and beaglers are taking a greater interest in programs to improve living conditions for rabbits and other game. We encourage this interest and hope to further stimulate it with this article. We need your help and we can help you!

Influence Game

The quality of the growing conditions on any tract of land influences the production of agricultural crops and game crops. Optimum growing conditions vary with the desired crop —what is good for clover is not necessarily the best for potatoes. Therefore, as growing conditions are improved for a specific crop so must conditions be improved for the production of larger crops of rabbits. Fortunately the high reproductive capacity of rabbits will quickly reflect improvements in living conditions and can be a guide in further improving conditions.

Develop Plan

Before actually going to work on the land you should carefully develop plans for your area to insure good interspersion of food and cover. The location of food in relation to cover is equally as important as quality. On most cultivated farm land more food is available than necessary but normally protective cover is lacking. On abandoned farm land, depending on the length of abandonment, the reverse is usually true. Many sportsmen can recall the large number of rabbits found on a particular farm for a few years after it was abandoned and the decrease in rabbit numbers as the years of abandonment continued. As food and/or cover disappear, so do the rabbits disappear. Hence the need for optimum interspersion of adequate food and cover and annual maintenance is recognized.

The development of small areas of good food immediately adjacent to good cover will create better living conditions for rabbits. Improved living conditions must prevail for the entire year. Many sportsmen fail to recognize that when young rabbits leave the nest and are forced to move relativcly long distances in quest of good succulent food, their chances of survival are reduced. Higher populations are possible only through survival of a larger ratio of the young produced. Efforts to improve living conditions for rabbits will probably be made either on intensively cultivated land or land abandoned for a number of years. Usually efforts by individuals will be on the intensively cultivated grounds of a farmer friend. It is unlikely that the farmer will sacrifice crop land and this is not really necessary. Odd field corners, gullies, outcrops, poorly drained, woodland and other areas not in agricultural crop production can be used to improve the crop of rabbits. Through his crops the farmer will provide the food and the sportsmen's efforts should be directed to improve the cover. The odd field corners, gullies, outcrops and other comparatively bare areas should be planted with shrubs or pines. The woodland edges offer a wonderful opportunity to pro-

RABBITS WILL RESPOND to improved living conditions and will act as a guide to further improvement. However, improved living conditions must prevail for the entire year, not just the summer months.

Photo by Leonard Lee Rue



vide immediate cover and receive a rapid response by the rabbits. These edges can be cut back to a depth of 50 feet thus creating cover low to the ground and at the same time allowing the sun to reach the farmer's crops along the field edge. Any logs or other usable wood can be made available to the landowner. The sprouts, briars, and shrubs which will grow as a result of the cutting will provide food and cover for several years; then, recutting may be necessary. In considering cover for rabbits, it is well to remember that rabbits live within 12 inches of the ground.

Abandoned Lands Available

Beagle clubs or sportsmen's organizations usually do not have the more fertile lands available for development. Most often, land abandoned for a number of years is available to these groups. On abandoned lands, food improvement is of prime importance along with increasing the available cover.

The following description will guide those who may wish to undertake improvement of living conditions for rabbits:

FOOD—The food habits of rabbits change seasonally. As indicated above, summer foods are important, especially to young cottontails. Winter food is usually of the woody type but herbaceous food, both green and dry, is used when available. There is considerable overlap in the use of some plant species as both summer and winter foods. Winter foods consist of berry canes, poison ivy, green briar and other vines, sumac and other shrubs and the sprout growth of various tree species, annual weeds, and grasses when available. Many of these foods become available following an edge or border cutting. Summer food should be supplied in the form of food plots of grasses and clovers. Food plots should be of high quality. Therefore, some soil improvement may be required where fertility is low. To begin properly, have the soil tested and then follow the lime and fertilizer recommendations. Food plots need be only narrow strips. The width should conform to one or two mower widths, since regular mowing is necessary to assure high quality succulent food for the young rabbits. Food plots should be kept in a "lawn" condition and often require four or more mowings per summer. All food plots should be located immediately adjacent to good low ground cover. The brushy ground cover in turn will supply much of the rabbits' winter food. Plowing and/or

THE LOCATION OF FOOD in relation to the location of cover is equally as important as quality of the food. On most cultivated farm land more food is available than necessary but normally protective cover is lacking. *PGC Photo*



discing, liming, fertilizing and seeding are used to establish food plots. To maintain the food plots in the best condition, top dressing with fertilizer will be required regularly. Periodic soil tests will indicate the need for additional liming. Larger field areas, as contrasted to the narrow strip food plots next to heavy cover, should be planted to a grass-legume mixture. These field areas will supply nesting sites and some food and cover. Rotational mowing of these areas with the cut set 8 to 10 inches high once a year will control noxious weed growth and result in a variety of high, medium and low growth. Sometimes better quality sites on abandoned land can be brought into grass-legume stands without tillage by top dressing with lime and fertilizer, and mowing. Where tilling and seeding are necessary, a nurse crop is advisable to assure survival of the legumes and grasses. Many of the fall grains and oats for spring planting can be used as nurse crops, with a light seeding rate of 1 to 1½ bushels per acre. A clover-grass mixture for food plots and the seeding rate per acre that is generally suitable for most areas is:

Kentucky bluegrass	6 lbs. per acre
Ladino clover	1 lb. per acre
White Dutch clover,	1 or 2 lbs. per acre
Alsike clover	1 lb. per acre
Timothy	2 lbs. per acre

The larger field areas should be seeded to the following:

Good Well Drained Soil

Red clover	4 lbs. per acre
Ladino clover	1 lb. per acre
White Dutch clover	1 lb. per acre
Orchard grass	2 lbs. per acre
Timothy	4 lbs. per acre

Poor Soil

Orchard grass	3 lbs. per acre
Timothy	4 lbs. per acre
Red clover	2 lbs. per acre
White Dutch clover or alsike clover	2 lbs. per acre

COVER—Cover and food go hand in hand. Improved cover can be provided by treating existing native woody vegetation and by planting shrubs, pines, and suitable grasses. As the living conditions are improved for rabbits, other game, including woodchucks, will increase their utilization of the improved areas. The woodchuck burrows will supply another form of rabbit cover.

Provide Low Ground Cover

Improving the native woody vegetation can be accomplished by cutting, brushpiling, bulldozing, or employing herbicides. The purpose of improving the native woody vegetation is to provide low ground cover, to encourage sprouting and to release or encourage the growth of desirable cover-producing species—briars, shrubs, and vines. Sites which lend themselves well to cuttings are woodland edges, spots within the woodlands, or overgrown fence rows and drainages. Cutting tools may be axes, brush hooks, and hand or power saws. Under certain conditions, treatment by cutting should be accomplished by the cut and bend method. Many stems when partially cut and bent to the ground will remain alive and provide additional protective cover. Cutting and bending are usually most successful with native or planted pines. Treatment of pines should be made when the stem at the ground is less than 5 inches in diameter and when the pine is beginning to prune out the lower limbs naturally making the cover too high for optimum rabbit use.

Brush Piles Valuable

Brushpiling has been a popular item among sportsmen and can be a valuable source of cover if properly constructed. However, much hard work is entailed in the production of good brush piles. A brush pile made entirely from small limbs and twigs will deteriorate too rapidly to provide any lasting benefits. Each brush pile should have a firm foundation of crisscrossed heavy logs or other support. When the smaller brush is kept off the ground, it will withstand the elements better providing benefits over a longer period. Brushpiling is most easily ac-

complished around spot cuttings in the woodlands or in gullies or drainages.

Bulldozing is useful when food plots are desired in large areas of small woody vegetation. Bulldozed piles of vegetation are valuable islands of cover alongside of narrow food plots.

Control Vegetation

Herbicides or brush killers may be used to control unwanted vegetation. A 4 per cent by volume solution of 2-4-5-T in fuel oil or kerosene may be applied to stumps or stems. Low pressure should be used in sprayers to guard against loss of desirable vegetation from drifting spray. Stem spraying should be directed at the lower 12 inches of the stems. The stems must be completely encircled with sufficient spray to allow it to run down to the root collar. Certain species are easier to control at specific seasons and follow up spraying is often required to complete the control of more resistant species. Specific directions for use usually accompany all herbicides and should be carefully followed.

Planting of shrubs, pines or grasses for cover requires more than one growing season to provide the cover equal to what you get immediately from woodland cutting. But on many areas the only way to provide cover in open fields, where it is so important, is to resort to planting. Strips of shrubs, pines, or grasses for cover should be planted on the contour and should be 25 to 50 feet wide with food plots on either side. Since cover, in association with food, provides the optimum conditions, the better the interspersion the better the living conditions.

Perennial Species

The perennial herbaceous species of some merit are: sericea lespedeza, switch grass, and reed canary grass. Sericea lespedeza is a legume and therefore will improve your soil while supplying cover in the fields. It normally attains only a height of 4 to 6 inches the first growing season and should be planted with one of the



PGC Photo

PLOWING AND DISCING, LIMING, FERTILIZING AND SEEDING are used to establish food plots. To maintain the food plot in the best condition, top dressing with fertilizer will be required regularly.

nurse crops previously listed. To insure an adequate stand the lespedeza should be seeded 10 to 15 pounds per acre. When completely established, these plantings are usually very thick and as tall as 3 to 5 feet. The stems are sturdy and stand up rather well in winter, creating good cover. This plant is also used as winter rabbit food. Switch grass is a relatively unknown plant and seed is hard to secure. However, once the plant matures, growing under moist conditions, it provides excellent rabbit cover. A mature stand will be reached in 4 or 5 years and will be 6 feet high. This, too, should be seeded with a nurse crop. Reed canary grass is a valuable cover plant for special areas that may lay too wet for tilling or mowing. Seeded in the fall this plant will soon dominate and provide good cover.

Shrubs of most merit for rabbit cover are multiflora rose, autumn olive, and tartarian honeysuckle. Multiflora rose generates mixed emotions among beaglers as some fear spreading and some fear for the dogs who go through it. Its spread is easily controlled by mowing, spraying, etc. Dogs

usually do not attempt to clash with it. It can be of great value when planted in clumps or multi-row plantings. Group or clump plantings should cover a minimum of ¼ acre. Row plantings should have a minimum of three rows. In row or clump plantings the plants should be 12 to 18 inches apart. Autumn olive and tartarian honeysuckle are both erect shrubs of similar nature and site requirements. As with the multiflora rose they are most valuable as cover when clump or multi-row planted. All of the above shrubs attain faster and better growth if they are fertilized, mulched or cultivated. Shrubs should be planted 3 to 5 feet apart.

Quite a variety of conifers are available for planting for rabbit cover. They are: white pine, red pine, Scotch pine, Virginia pine, Austrian pine, mugho pine, and Norway spruce. All are erect species except the mugho which has many stems and attains only moderate height. Conifers will require maintenance for continued value as cover; this can be accomplished by topping or cutting and bending in warm weather. Conifers provide earliest cover results when planted 4 feet apart but will require topping or cutting and bending sooner when planted at that distance. Clumps or rows of the shrubs or conifers can be planted individually but a more desirable method would be to use multiflora rose, shrubs, and one or more species of conifers in a combination planting. If combined, the conifers should be in the center with the taller shrub next to them. Care should be exercised that enough distance be allowed between the pines and the shrubs so that they are not too crowded when mature.

After you have created better living conditions for rabbits and therefore have more rabbits, your area will attract predatory animals. For those who fear losses of rabbits which they feel they cannot afford, it may be well to provide some control of the undesirable animals.

By establishing some of the described forms of food and cover you should be gratified at the increased number of rabbits. If you have a question or need assistance in developing your area for more rabbits, your Game Commission is ready to help.

WINTER SURVIVAL rates will be improved as the standard of living improves. Both food and cover are requirements of this cottontail alone in this vast white wilderness.

Photo by Steve Szalewicz





WOODLAND SHELTER

By Lawrence E. Stotz

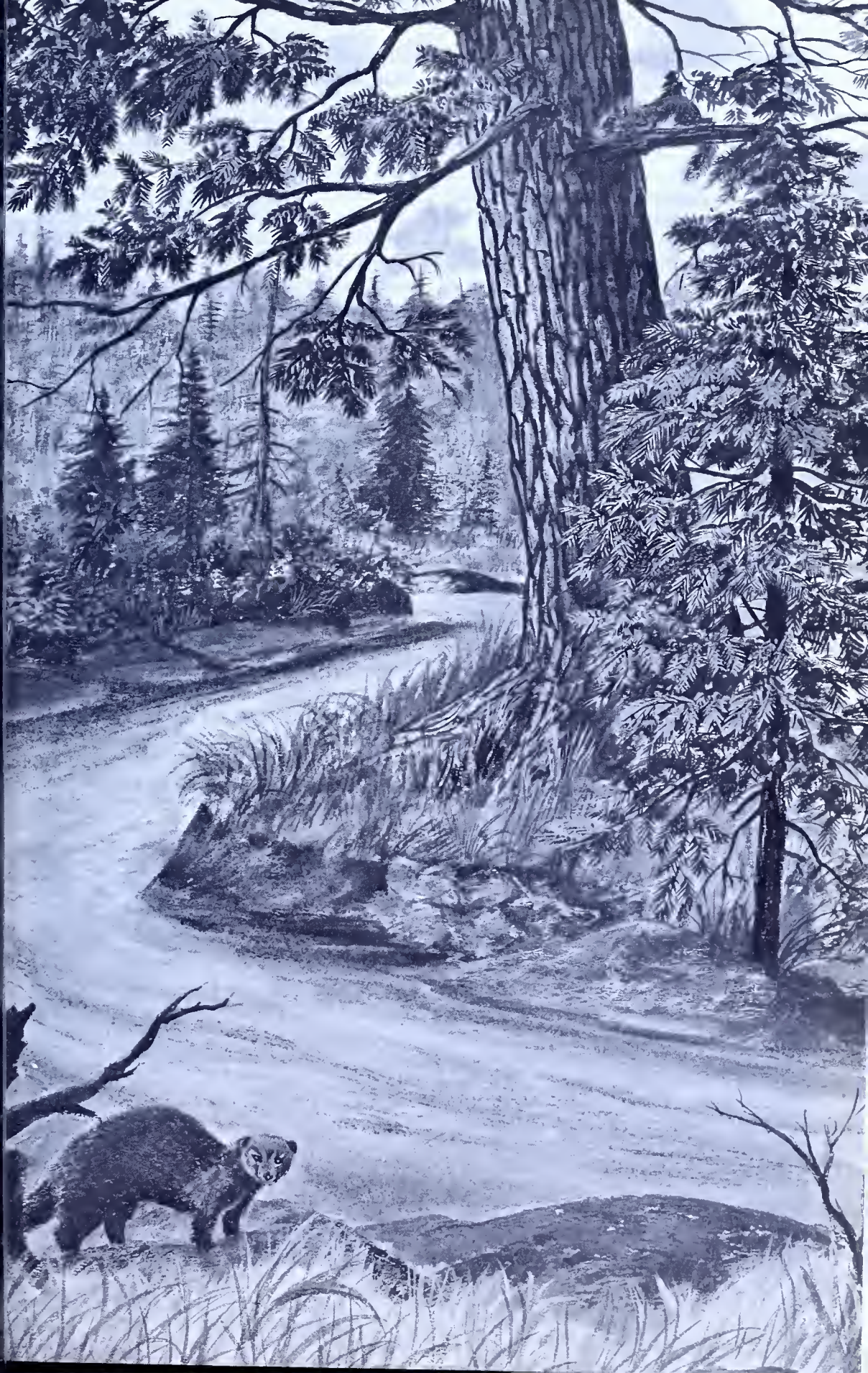
THE natural range of Eastern hemlock, the State Tree of Pennsylvania, is shaped like a giant arrowhead with a deeply indented base. Its sharp tip points into the sea in Nova Scotia. One of the shanks extend through the Appalachian Mountain system into Tennessee and northern Georgia. The other fingers off into the blue waters of the Lake States. The heartland of the range of hemlock lies in northwestern Pennsylvania at about the point where an Indian Paul Bunyan might fasten a shaft with deer sinew to this living arrowhead of turquoise green.

Of more than passing interest to the eastern Indian, this fine tree provided temporary shelter to the leg-weary hunter in periods of heavy snowfall, or when violent summer showers struck. He dressed his battle wounds with a healing paste made by boiling the bark of young hemlock, and utilizing the oleoresin from this evergreen tree to make external poultices. Young hemlock thickets provided dense cover for surprise attacks against passing enemies and a place of retreat to avoid being overcome by superior numbers. Dead twigs and branches, protected from rain and wet snow by the dense evergreen crown, provided dry fuel at all seasons of the year for both Indian and white hunter.

The long-lived hemlock forms a living link with the past. Ghost memories of those who have gone before us still cling to the evergreen boughs under which they took shelter. They seem to stir again when a howling gale sweeps through the dense crowns, or a gentle breeze ripples the feathery foliage of the outermost twigs. Four-hundred-year-old specimens are not uncommon, and the Methuselah of the hemlock world lacked only a dozen years of reaching ten centuries of growth.

Walk through the forests of Pennsylvania and you may unknowingly tread upon the crumbling remnants of these ancient trees whose dim outlines are covered with moss and leaf mold. All that may be left of some fallen giants are charred limb stubs that have survived the searing flames of forest fires, and now resist the slow decay that has swallowed up the massive trunks.

Along with select white pine, the hemlock was one of the first trees in Pennsylvania to be felled by the commercial logger. Because civilized man wore shoes of tanned leather, many fine hemlock groves were doomed. Their tannin-rich bark was eagerly sought for curing leather. Although the cork oak of Portugal could be flayed alive and still live, the Eastern



hemlock was not so fortunate but came to a crashing end as axe and cross-cut saw bit deep. Stripped of its bark, its glistening while bole was left to rot like the broken mast of a beached sailing ship.

As the demand for construction lumber increased, hemlock logs as well as the bark found their way out of the Pennsylvania woods. With a market for the whole tree now assured, heavy inroads were made into the virgin stands. The dense slash left open to the sky following clear-cutting became tinder dry, and run-away fires became a scourge on the face of the land.

A Prolific Seeder

Fortunately, hemlock is a prolific seeder with good seed crops occurring every 2 or 3 years. The tiny cones mature in the fall. They open in dry weather and close again when moist conditions prevail. Seed dispersal is accomplished during bright fall weather and throughout the drought of winter. It may take as many as 360,000 of the cleaned seeds to make a pound, but each tiny, winged seed is a potential tree. The germination rate, however, is low. Since old age is no barrier to cone development, a 450-year-old tree may still produce heavy seed crops. Some of the oldest and loftiest trees in the forest may scatter wind-blown seed for three-quarters of a mile.

Thrives in Shade

Unlike the light-demanding white pine seedling, young hemlock thrives best in the cool shade which it can endure as an understory tree for as long as two centuries. A sapling no bigger in diameter than the thickness of a man's wrist may have been a tiny seedling at the time of the French and Indian War.

Today, young hemlock stands form low cover beneath pole-sized forests of second-growth northern hardwoods wherever conditions favor this moisture-loving conifer. Where deer numbers have been excessive, a browse line of dead twigs has become so characteristic as to be accepted by many as the natural appearance of this species. Where numbers have been kept within bounds, the young hemlocks have live limbs reaching nearly to the ground except in dense thickets where natural pruning has

WHEN THE SNOW PILES HIGH, the hemlock has its greatest value to wildlife. The dense foliage of a large hemlock acts as a natural umbrella which prevents much of the snowfall from ever reaching the ground beneath it.



taken place. So thorough has been the destruction of hemlock seedlings by deer during population explosions in the forests of northwestern Pennsylvania that only in the most protected places have they become established in recent years. On the flat surfaces of great isolated conglomerate boulders little islands of hemlock seedlings can be observed which have found precarious footing on the thin layers of soil and plant litter. Protected on all sides from deer by the precipitous walls of stone, they are like green islands in the sky that remain apart from the world beneath them. Occasionally a wind-blown seed will find conditions to its liking in the cool, damp recesses of a hollow, rotted stump. The young seedling that pokes its tender top above the brittle outer shell of the stump finds a fertile seed bed that will sustain it in the early years of its life. With the reduction of the deer herds through antlerless seasons, hemlock seedlings can be expected to spring up from the bare ground beneath the shade of old veterans and far beyond the confines of parent trees.

Along the Stream

Along stream banks the moisture-loving hemlock casts its shadow on waters that hurry to the sea. Its presence or absence in sufficient numbers may spell the difference between a stream too warm to support trout and one that affords a suitable habitat for this gamy fish. In addition to furnishing cool shade, it provides other benefits for the trout that is so dependent upon the land through which the stream flows. The gracefully drooping branches that reach to the water's edge cast insect life into the stream whenever the wind whips the twigs into motion. Thus this tree provides an important link in the food chain upon which all aquatic and terrestrial life depends. Its elaborate root system holds in place the surface soil to form a protective shelf above an undercutting bank on the bend of a trout stream. This cave-like shelter may hide some of the big trout that tax the skill and patience of the fisherman.

The ground beneath a large streamside hemlock often becomes the favorite resting place for a weary trout fisherman who returns to the same spot year after year. Its sturdy bole provides a convenient back rest as he eats his lunch beside the stream and contemplates the big trout that got away. A minor tragedy in the life of a fisherman is to return some spring day to find that the great tree has been blasted by lightning, and the spiral path of the searing bolt has cut off the life line between roots and crown. The tree that seemed such a permanent part of the shoreline is slowly dying as the dark green needles turn





yellow and drop from the brittle lifeless twigs.

Important as this tree is to the trout fisherman as he pursues his sport under spring and summer skies, its real worth becomes apparent during hunting season and during the long winter months when the snow piles up to great depths. The dense foliage of a large hemlock acts as a natural umbrella which prevents much of the snowfall from ever reaching the ground beneath it. To fully realize just how much snow it does intercept visit the forests of northwestern Pennsylvania in the dead of winter and leave your snow shoes behind. Step off the plowed road and strike out on foot through drifted snow that is knee deep and partly crusted. After an hour of this pulse-pounding activity, you can better realize the plight of hunger-weakened deer in deep snows. Then seek sanctuary in a grove of hemlocks. The snow that threatened to flounder you out in the open becomes less than a foot deep under the protection of their friendly crowns. Now you can appreciate why deer seek the shelter of a hemlock grove or thicket when deep snows form a treacherous white morass that saps their strength.

Not only does a hemlock thicket form woodland shelter for wildlife, but the low-hanging, live twigs furnish emergency food for deer when travel through deep snows is difficult. Its food value is at a bare minimum and is classed as "stuffing," but the browse lines in most hemlock thickets indicate that it is heavily used under winter conditions to supplement more nutritious but scarcer food.

A group of hemlocks is a favorite spot picked by sportsmen for locating a turkey feeder. Here the birds are protected from predators and the weather. In the dense cover trouble-

PGC Photo by George H. Harrison

PENNSYLVANIA VIRGIN HEMLOCKS at Alan Seeger State Monument in Huntingdon County tower into the sky from trunks 15 feet in diameter. These are among the state's largest hemlocks.

some crows are less likely to eat up the supply of corn. The ground around a well placed feeder is a busy place. Here may be seen the tracks of turkeys, squirrels and deer.

It is not uncommon to have a porcupine feed continually for weeks in the upper crown of a large hemlock. If the crown is small, branch-pruning by this animal may prove fatal to the tree. A three-layer feeding arrangement may result if this same tree is chosen as the location for a winter feeder. While a sluggish porcupine sways back and forth as it feeds upon a windswept limb a hundred feet above the ground, a squirrel is busy shelling the bright yellow corn in a cylindrical wire feeder below. With unerring accuracy he locates the nutritious germ in each kernel as he removes it from the cob. With the germ removed, the kernel drops to the ground to be picked up by a deer or wild turkey. During a good seed year the ground is covered with the tiny winged seeds of hemlock which are eaten by chipmunks and squirrels.

The winter of 1960-61 with its continued sub-zero temperatures and deep snows made emergency feeding by the Pennsylvania Game Commission and sportsmen necessary to reduce the winter losses of both deer and wild turkey and to keep the herds and flocks at the present desirable level. Browse cutting plots were located wherever possible where hemlock cover was present among the hardwood browse. Bulldozers cleared the snow from old log roads and woods roads so that trucks could haul the corn deep into the forests where the deer were concentrated under the protective cover of hemlock groves and thickets. Here under this woodland shelter could be seen the bed grounds and tracks of deer etched into the snow. With the emergency feeding program conducted by the Pennsylvania Game Commission and interested sportsmen, a reduced deer herd due to antlerless seasons, and the woodland shelter provided by Pennsylvania's State Tree — the Eastern hemlock—wildlife has survived one of the worst winters of the twentieth century with only minor losses.

PORTRAITS OF THE SEASON

July

THE pond no longer vibrates to the cold-blooded chorus of early summer. The twang of a green frog and the slap of a beaver tail flat on the stinging surface are all that break its silence now, but swarms of fat black tadpoles in the shallows speak well for the fertility of the vanished choristers. The buck's horns are soft and he treats his fur-sheathed weapons with care lest they snag and bleed. Fawns are spotted still, but mouth at the meadow grass in-between-meals. The garden-hose weasel threads the mouse runs for hot-blooded meat to feed her squealing brood and soon returns with a paunchy meadow mouse. At night, a pale green luna moth, big as a hand, drifts through the whip-poor-willed July, while far above him, teetering on the rim of a knothole, a shaky young flying squirrel tries to make up his mind. In the swamp, the skunk cabbage hides all in a loose, deep sea of tropical lushness. The greens darken and lose their freshness. The high tide of the year is reached but does not yet recede.—*John Guilday.*



Photo courtesy Mrs. Phil Sharpe

"THAT PLACE" located near Gettysburg was a "gun-bug's paradise." The home in an out-of-the-way area started out to be a hideaway, but the shooters eventually discovered Sharpe's whereabouts again. Here Sharpe sights-in a scope on his outdoor range.

Phil Sharpe's Home Was Known Around the World as the . . .

Shooter's Mecca

By Bob Bell

FOR a fifteen-year period a neat frame farmhouse a few miles north of Emmitsburg, Md., and just inside the Pennsylvania border was Meeca for the shooters of the world. Here, behind a rural mailbox bearing the legend, *That Place*, was the home of Philip B. Sharpe from 1947 until his untimely death in 1961.

An internationally recognized gun authority, Sharpe was familiarly known as "Phil" to thousands of gun cranks from all corners of the world. And it seemed as if all of them dropped in on him at one time or another. Shooters from every state in the Union stopped on vacation trips; research and design men from England, Denmark, Norway, Sweden, Germany and elsewhere, as well as from all American companies, were frequent guests; old friends like Norma's ballistic engineer Nils Kvale came by for a chat and stayed a week.

All had one thing in common—an interest in guns. And this interest led them to "that place." Many came to get specific arms questions answered; others just wanted to meet the fellow whose articles and books they'd been reading and using for reference works for decades.

"What was Phil Sharpe really like?" That's the question we've been asked in hunting camps over much of the United States as soon as it was learned we knew him. Then the invariable comment: "I read his stuff for years and thought he was the best technical man in the business and I'd like to

know how he got his information and what he was like personally."

The interest seems natural, and is deserved. Phil was important to shooters. Now, since it's too late for many of them to meet him personally, maybe this little article will help.

Average Looking Man

Physically, Phil was about average height, slim and wiry, with a shock of graying hair, and sometimes, a mustache. His hands were small and looked more at home in his laboratory than holding a firearm, although he was an expert with all types, including the sub-machineguns and machineguns. His manner was thoughtful, reflective; often there was an air of inner tension, as if one part of his mind were intuitively leaping for answers while another purely logical part acted as a checkrein.

This quality was reflected in Phil's talk. It was difficult to get a simple "yes" or "no" answer from him on any gun question. Obviously, this was because few serious questions could be answered this way. There were always side issues to be examined, qualifications to be made, conflicting points to be examined. And being aware of the mass of pertinent data, Sharpe refused to give an answer which didn't reflect all the evidence. Though not without a sense of humor, where guns were concerned Sharpe was all seriousness.

Early Interest in Guns

Born in 1903 (the year of the famous Springfield rifle), Sharpe gained an early interest in guns and by 1919 was writing his first articles for a newspaper in Portland, Maine, his birthplace. These were followed in 1921 by a contribution to "Arms and the Man," predecessor to the current "American Rifleman," and he wrote continually from then on.

From the beginning his articles had the attention of serious shooters. They liked his scientific approach, his unwillingness merely to parrot previous writers, and his dislike of unproved



Photo courtesy N.R.A.

Gun expert Phil Sharpe.

statements. This unfailing search for truth resulted in writing identified by one important characteristic: accuracy. Gradually, the realization that, "If Sharpe says it, it's so," grew on the shooting public. There never was any reason to change this outlook.

Sharpe's attention to detail is best exemplified in his two books, *The Complete Guide to Handloading* and *The Rifle in America*. Published in 1937 by Funk and Wagnalls, the handloading book completely covered all phases of this hobby. It listed over 6,000 different loads and contained about 400 photographs, most from Sharpe's own cameras. It was immediately recognized as a classic, and now, 25 years later, after several editions and numerous additions to keep it abreast of new developments, and some nineteen printings, it is still the best seller in the handloading field.

The Rifle in America, issued in 1938 by the same publisher, has been on the market longer than any other book in its field. This monumental work, giving details on almost every commercial rifle ever manufactured in this country, also has gone through several



Photo courtesy Mrs. Phil Sharpe

CAPTAIN SHARPE served as a small arms historian, Office of Chief of Ordnance, U. S. Army, and was stationed at Washington and Baltimore. Before going overseas, he also served as Proof Officer, Foreign Material Section, Small Arms, at Aberdeen.

editions, the one published after World War II including comments on most military weapons used there, including those of foreign make.

Probably every phase of arms and ammunition is touched on somewhere in these books. And always the facts appear. Because of this, both are standard items in public libraries and on many military posts.

The Gettysburg Location

In a way, the books accounted for Sharpe's location near Gettysburg. Following the war, in which he served as a captain in Ordnance from December, 1942, until May, 1946, serving about half this time as Chief, Small Arms Unit, Enemy Equipment Intelligence Service in the European Theater of Operations, he returned to the States, anxious to bring his books up to date. However, he found that daily visits by gun crank friends to his Baltimore office kept him from writing steadily. Phil scouted the region until he found an out-of-the-way place that suited his needs, bought it and gradually turned it into a "gun-bug's paradise." As noted previously, the shooters eventually discovered his whereabouts again, but he had gained the time needed to get his work straightened out.

The building that interested visitors most was Sharpe's range house and laboratory. Located a short distance south of his home, the cement-floored, rectangular, one-story building was divided into two main rooms. Extending around the walls of the larger one were benches on which loading tools of every design, including some experimental models not commercially available, were set up. Scattered around the floor were others for which there was no room on the benches yet.

Glass-Enclosed Balances

Also found there, besides the usual measures and scales with which all handloaders are familiar, were the glass-enclosed analytical balances Sharpe used to weigh his test loads. With these he held to the precision of Class S, Bureau of Standards; in powder, his charges were accurate to the nearest kernel.

From the smaller room, Sharpe did his test firing. A solid bench rest was built beneath a swinging window which faced a rubble-filled, railroad-tie backstop, 100 survey yards distant. Just inside the door was a gun rack, and to the right of the bench, near enough to be used without moving from shooting position, was his Potter Counter Chronograph. A Universal Pressure Gauge, used in determining chamber pressures of non-standard cartridges, also was set up here.

Sharpe didn't always have such advanced equipment. His first rifle, a gift from his father at age six, was a Stevens "Little Scout" .22 short. This was followed four years later by a Marlin M-1897. At fourteen, hunting with his father and using his first center-fire, a Remington-Lee military .45/70 which he had remodeled, Sharpe killed his first—and what he always claimed was his biggest—buck.

Phil's interest in guns was insatiable. When he couldn't hunt he shot skeet

and trap shotguns, bench-rest and military rifles — anything, so long as it burned gunpowder. He attended the National Matches at Camp Perry for the first time in 1927, and in the thirty years following he was there every year the matches were held. He didn't compete after 1931, as he felt he ". . . was not good enough for the big time," but he couldn't keep away.

As a young man, Sharpe always was interested in serious gun experimenters such as Franklin Mann and H. M. Pope, to whom he dedicated his handloading book. It was always a point of pride to Sharpe that just before Pope's death the old master barrel maker presented his copy of the book to a favorite grandson, telling him it was one of his prized possessions.

Sharpe regularly visited most American arms plants twice a year. This personal contact with the top men in the gun industry, plus his own research, continually added to his store of knowledge and this led to numerous writing jobs. At various times he was firearms editor of "Michigan Sportsman," "Sports Spotlight," "Outdoors," National Sportsman," "Hunting and Fishing," "All-Western Magazine," and "Western Story Magazine." For a five-year period ending September, 1955, when he began a private business, Sharpe served as a contributing editor to "The American Rifleman."

Led to Related Fields

This constant study of arms and ammunition led Sharpe into related fields. He served as consultant in research and development work; appeared many times in state and federal courts as an expert in cases involving firearms; was a police instructor on the Thompson submachinegun in Portland, Maine; was for three years a technical advisor to the American Fiction Guild; and at the beginning of World War II organized and trained a special 135-man shipyard police department in Maine. Shortly after this, he entered the Army; before going overseas he served as Small Arms Historian, Office of Chief of Ordnance, stationed at Washington, D. C., and Baltimore, and Proof Officer, Foreign Material Section, Small Arms, at Aberdeen.

In all these assignments Sharpe found material to interest him. And it seemed likely he made notes of every useful fact, for one large room of his house was walled with tall filing cabinets stuffed with gun data collected over a lifetime.

In his years of gun work, Sharpe used every type of firearm, but not wanting to limit his interest he refused to let himself become a fanatic over any single type of cartridge. However, he did have one special favorite—his Smith & Wesson .357 Magnum, the first handgun of this type out of the factory. It was fitting he should have this gun, for he did much of the basic research and development of this world-famous cartridge.

More recently, in collaboration with Californian Dick Hart, Sharpe developed the highly efficient 7 x 61 S & H Magnum cartridge. His painstaking attention to detail was illustrated during the work on this cartridge. Not only were all loads pressure tested, but to measure velocities Sharpe set up a *second* Potter Counter Chronograph to check the first one! It's doubtful if any other privately developed cartridge in history was as carefully checked as this one.

Following a serious illness in 1957, Sharpe reluctantly abandoned, at his doctor's insistence, his voluminous correspondence with shooters around the world. He did find time to bring his books up to date. The latest edition of *Handloading* contains over 8,000 loads, a 33 per cent increase over the original, and *Rifle* is up to almost 1,000 pages and over 700 illlustrations. Maybe they're not perfect—nothing ever is, not Harry Pope's barrels nor Franklin Mann's bullets nor Phil Sharpe's books—but they're close. And few men leave so much behind for others when they cross that last big river.



Photo by SCS

CAMP MEADOWCROFT provides 300 acres of fields and woodlands for the enjoyment of youngsters in Washington County. Camping, hiking and nature studies are some of the activities that can be enjoyed there.

Plenty of Room for Hundreds of Alices . . .

A Wonderland Called Meadowcroft

By Joseph A. Krivak
Soil Conservation Service

THE wide open spaces for many eastern youngsters exist only on the TV screen in the form of Westerns. Because of the many pressures in today's world the need for recreational areas is recognized by everyone. This need is the greatest in urbanized areas and it is here that the need is hardest to fill. Land for public recreation has usually been acquired where it has been low in price. A condition occurring only in areas far removed from population centers.

At the same time thousands of acres of private land near these centers lie unused. In looking only to public ownership for recreational space have we missed the boat? Can private lands be put to better recreational use? Many acres can. A three hundred-acre area in Washington County owned by Albert Miller offers proof of this use.

In these days when the dollar sign is so often held up as the star for which man is supposed to reach, men like Albert Miller are pleasant exceptions to the rule. Albert's business is farming, but he uses only half of the 650 acres to make a living. The only unusual thing about the other half is its use.

In an area of the state which is highly urbanized, but not blessed with extensive public recreational areas, the 300 acres of woodland, fields and reclaimed strip mines called Meadowcroft go a long way to meet outdoor recreational needs for at least a few hundred boys and girls. Almost every summer day and many weekends throughout other seasons of the year the area resounds with the laughter of youngsters enjoying themselves. As one youthful visitor said after spending the day looking at the interesting rock formations and the native flowers, "This is Wonderland and I am Alice."

Who Pays?

About this far along the cynics among us are saying, "That sounds fine but who picks up the tab." Let's see how Meadowcroft was developed. Much of the land now being utilized was cut-over woodland, overgrown fields and strip mines. The cost of development has not been so much in terms of money as it has been in labor.

With 500 Scouts making use of the area there has been no lack of eager hands. Other youth groups have also volunteered many a summer evening. Cost of materials has been kept low and a natural setting maintained by the use of native stone and of poles and logs found nearby.

It isn't easy to put a price tag on the value of the area. What value can you attach to a Scout being able to recognize the call of the mourning dove or to identify the Oswego tea upon which the hummingbird feasts? A figure commonly used to determine the benefit of public recreational areas is $1.25 per day of use. With more than 4,000 days of recreational use annually Meadowcroft's value at this rate is $5,000.

An Old Homestead

The original homestead of 180 acres which has been in the Miller family since 1795 shows little erosion. Much of the rest that was purchased had not fared as well. As early cooperator of the Washington County Soil Conservation District and one of its directors for the last three years, Miller has long recognized that conservation means wise use. Perhaps professional conservationists could borrow from his multi-purpose land use thinking. Water and woodland, soil and wildlife resources have been combined in developing Meadowcroft.

In this area coal mining has made natural springs something that only Grandfather remembers. With the assistance of Bard Judy of the Soil Conservation Service, Washington, Pa., Miller has transformed a dozen "wet spots" into as many springs. These are located throughout the recreation area and are welcome sights for the thirsty hikers.

Perhaps the biggest job tackled was the land laid bare by strip mining. Since 1953 a quarter of a million tree and shrub seedlings have been planted. Not all of the scars are healed. Some of the bare spots are too acid to support any type of plant life, but here is one place where nature has an ally in her rehealing efforts.

Was a Wildlife Desert

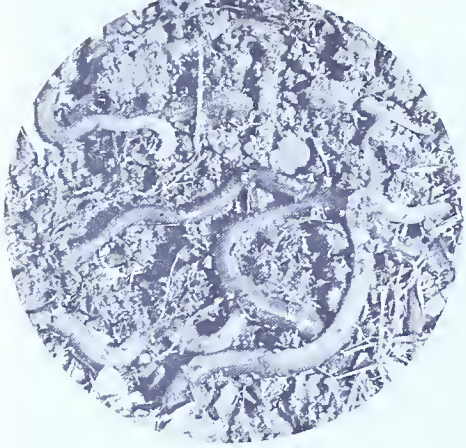
The area is no longer a wildlife desert. Before Miller started developing the area a few cottontails could be found. But the land supported little else to provide gunning pleasure. Today deer and grouse are making a rapid comeback.

Having Meadowcroft available for outdoor activities has made the work of the Scout leaders easier. Mrs. Edward Bell, Girl Scout Camp Director, Washington, Pa., expresses the feeling of all the leaders in these words. "Meadowcroft is an ideal place for outdoor training and camping. Being so close to nature gives the youngsters security and an awareness of the nearness of God. To have been able to contribute, even a little, to the reclamation of the land has been a most wonderful experience for the children. I've always wondered who benefits the most, the youngsters or the land."

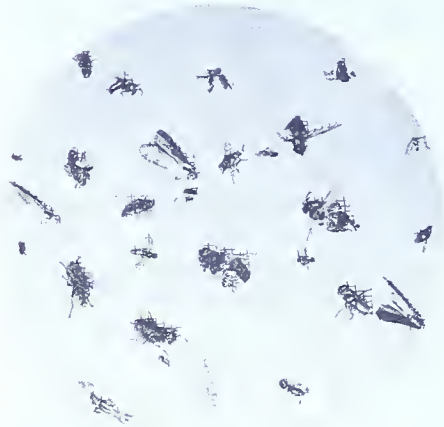
Albert Miller is still building at Meadowcroft. This year it may be a new cabin, next year more nature trails and the year after a few more acres of strip mine spoil covered with trees. His reward is the sound of happy voices becoming better acquainted with nature's wonders because of his efforts.

MEADOWCROFT OWNER Albert Miller and Soil Conservation Technician Bard Judy rest at one of the shelters which is used for overnight camping trips. *Photo by SCS*





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species consume the leaf buds a
the bark to extract parasitic larv

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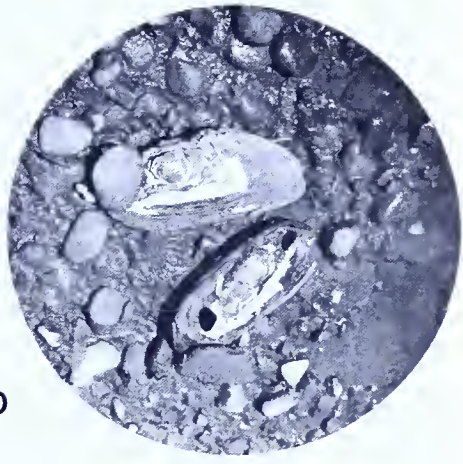
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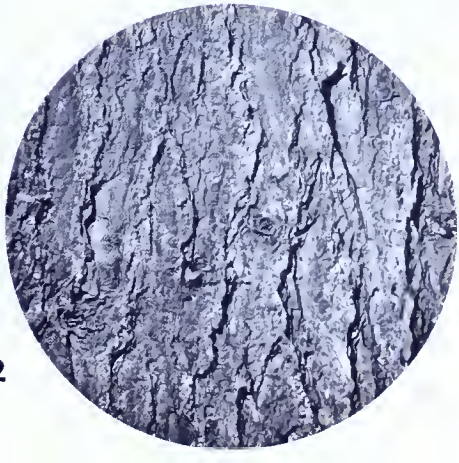
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FIELD NOTES



Shot Down

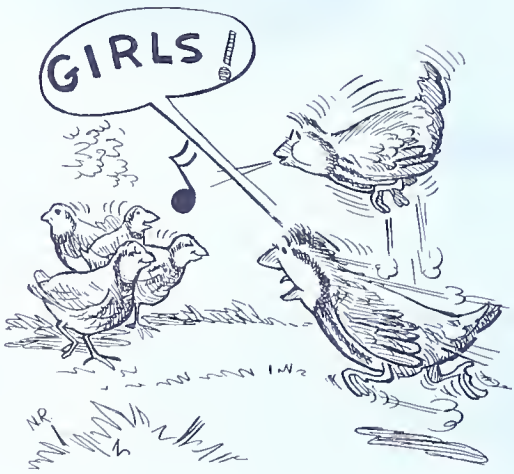
SCHUYLKILL COUNTY – Game Commission men working on the Food and Cover Corps notieed a strange event during the early part of April. While working on State Game Lands No. 227, north of Tamaqua in Sehuylkill County, a hailstorm eame up and the men were watehing the large hailstones bounee off the road when they notieed a floek of about thirty blaekbirds flying aeross a field. Suddenly about half the birds fell to the ground and the rest eontinued on to the trees. The men proeeeded to the spot when the hailstorm subsided. When they arrived the blaekbirds then flew away. The men said that it was apparent that the birds had been felled by the large hailstones as they flew aeross the field. –Land Manager Billy A. Drasher, Orwigsburg.

High Road Kills

BERKS COUNTY—While proeeeding to work one morning, two Food and Cover Corps employes, Howard Hill and John Greis, eounted 27 dead pheasants on an 18-mile streteh of Route 22 in Berks County. If you eould projeet these figures over our good pheasant eountry, the amount of dead birds would be almost unbelievable. – Land Manager Samuel C. MeFarland, Centerport.

A Late Rack

LANCASTER COUNTY—On Palm Sunday while Deputy Martin Stoner was going to ehureh he saw a buek deer still earrying his raek. While Mart was not elose enough to eount the points, he assures me that it was a raek that would make any sportsman happy.—Distriet Game Proteetor John P. Eieholtz, Strasburg.



Welcome Wagon

LUZERNE COUNTY—On April 26, I released a eovey of quail on the Fred Heppe Farm, Farm Game Projeet No. 187. Here there is plenty of suitable habitat for quail where a eovey of 13 made it through the hard winter of 1961. I eut an exit in the end of the box and stepped baek. The birds eame out and started dusting themselves under a spruee tree and were ehattering. Soon I heard several answers from up the swail. Suddenly two male quail appeared on a dead run. I thought there was going to be a battle, but all they did was run around the eovey of new birds and ehatter. Soon one of the males stopped, whistled and headed baek to his home. I don't know what the eonversation was but it eould have been: "Greetings, eome on and follow us, we'd like to show you new people around our plaee." The new birds all followed the two males who had come to meet them.—Distriet Game Protector Robert W. Nolf, West Hazleton.

Eagles Awarded

BUTLER COUNTY — I had the honor and privilege to present the Conservation Awards at the Boy Scout Court of Honor Banquet. Five of the local Scouts received the highly coveted Pennsylvania Game Commission Wildlife Conservation Award. The awards went to the following Eagle Scouts: Peter Cherry, Jr., James Semanco, Larry Micholick, Leroy Kriley, Lynn Kriley. It is my feeling that conservation is here to stay with this caliber of youth showing interest in the field. — District Game Protector Jay D. Swigart, Butler.

A Lot of Banding

WARREN COUNTY—Mr. and Mrs. Charles Neel, of Sheffield Township, report that during the past winter, using bands supplied by the U. S. Fish and Wildlife Service, they banded 1,630 evening grosbeaks and 870 juncos. This is the first year that the Neels have had a bird banding permit. —District Game Protector David Titus, Warren.

Collared Wild Pet Wild Again

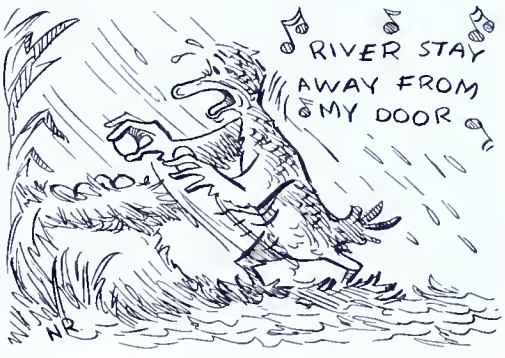
ERIE COUNTY—Charles Sargeant, R. D. 2, Albion, and two friends dug a vixen red fox from its den on March 31, 1962, along with its six pups. This in itself is not an unusual happening in this area but this vixen had a size seven puppy collar around its neck and to make matters worse the collar had a bell attached to it. The vixen must have had a very hard time eating anything but small pieces of food as the collar was very tight and the fox was medium in size and in good flesh. No doubt it had belonged to someone who just had to have a cute little fox puppy and then as the novelty wore off they got careless and the fox reverted to its natural state.—District Game Protector Ralph E. Flaugh, Albion.

Nest Robbers Checked

WESTMORELAND COUNTY—Jack Wilkinson, of Armbrust, was having trouble with the crows robbing his duck eggs. He came up with the idea of making a nest in the field and placing several golf balls in the nest and placing several traps around it. The first week he caught twelve of the black robbers coming in to steal the "eggs."—District Game Protector Joseph M. Maholtz, Pleasant.

Flood Threat

MONTOUR COUNTY — There is an interesting sequel to the story of the nesting mallard on the farm pond here in my district. This hen added another egg to the twelve I had counted on March 31 and then started to incubate. About a week later we had several days of heavy rain and the water level of the pond rose to a point where the waves were splashing into the nest. I didn't know of any Civil Defense or Red Cross in the field of wildlife for this kind of emergency but the old gal solved her problem of rescue and rehabilitation in a very successful way. She made a new nest directly behind and a little higher up on the bank of the pond and in some way managed to move the eggs up into the new nest and went on with her work of producing a family. On April 29 she hatched 11 ducklings and left the nest with them all hale and hardy. Only two eggs failed to hatch. —District Game Protector George A. Dieffenderfer, Danville.





Love That Honey

CENTRE COUNTY — It's hard to keep the bears away from honey this year. An old mother bear and her two last year cubs proceeded to tear up seven bee hives for Ocsae Woods, of R. D., West Decatur, while the headlights of one car and the spotlights of two other cars were upon them. According to Mr. Woods, the bears would tip over a hive, pull out a frame or two, do either the Charleston or Twist and take off for the brush, but as soon as they ate the contents of those frames they would return for another helping. All of this took place within 60 yards of the house and on one occasion within 20 yards of the occupied car.—District Game Protector Michael Grabany, Philipsburg.

Spring Is in the Air

ROSS LEFFLER SCHOOL OF CONSERVATION — While traveling through Centre County with Student Officer Hess, we observed a doe deer running through a grass field kicking up her legs and jumping like a new colt turned out to pasture. Never breaking her pace, she ran into a wire fence and did a complete backward flip, landing on her feet again. She looked at the fence awhile then started jumping around the field kicking her heels higher than ever.—Student Officer Lorraine E. Yocum.

Wired Death

FAYETTE COUNTY—Fabian Kondrla, of R. D., Smithfield, telephoned my headquarters to report a wildlife mishap. The following incident occurred early in the week of April 22, near the small community of Gilmore, less than 10 miles from Uniontown. A 6,900-volt electric line became unfastened from its insulator atop a pole. The line hung suspended by the adjoining poles, the lowest point of the wire was about a foot from the ground. Electric service was not interrupted since the line was unbroken. Consequently no one had any knowledge of this impending hazard. Deputies Bigam, Herman and I went to the scene to investigate. An adult male and two adult female deer lay dead beneath the wire, electrocuted. Two red foxes which came to feed on the carcasses met the same fate. Two large marauding dogs likewise met their demise. It is not unreasonable to assume that the toll was even greater. Every accidentally killed female deer that we have examined this spring has contained twin embryos. However, these animals were too badly decomposed for examination.—District Game Protector Michael Sarachman, Uniontown.

Cooperation Gets Results

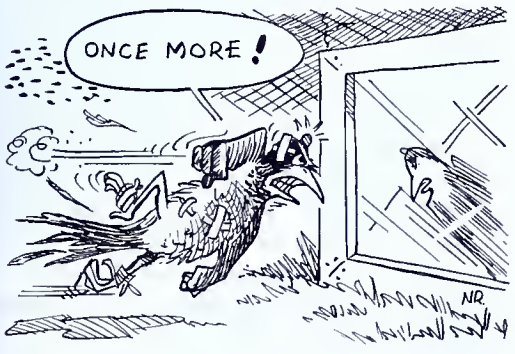
BEAVER COUNTY — The Aliquippa Bucktail Sportsmen League is financing the cost of a 500-bird pheasant pen at Raccoon State Park. This pen is being constructed by the boys from Youth Forestry Camp No. 1, located at the park and operated by the Department of Welfare. The boys also raise the pheasants under supervision. This is a good example of cooperation between the organized sportsmen, Game Commission, Department of Welfare, and last but not least the Department of Forest and Waters. — District Game Protector Harry E. Merz, Beaver.

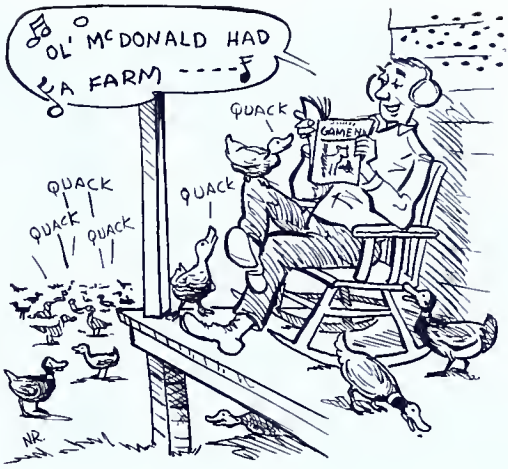
Farm Frolic

ROSS LEFFLER SCHOOL OF CONSERVATION – While on short weekend leave in April, I was plowing for oats in Clearfield County, when three deer came into the field. They came within twenty yards of the tractor and then started to play; running around the field in the freshly plowed ground. They seemed like children as they raced around and around the tractor and plows. I had their company for about one and a half hours.—Student Officer Duane W. Gross.

The Robin That Isn't There

JUNIATA COUNTY – A vacant home, a cellar window and spring have all combined to frustrate a neighborhood robin. My wife, Ruth, first called my attention to a robin in our neighbor's yard. He would hop up to the window, at ground level, see his reflection in the glass and fly into it. He would bounce back and try again and again. Ruth noted that he kept this up all day. He got so used to this he would land ten feet away and rush right smack into the glass. This was bad enough for one day but this is being written eight days later and he still appears there every day fighting his own image. He is there most of the time and only leaves for short trips for food and water. It will be a long hot summer if he intends to actually chase that other robin away. —District Game Protector Robert Shaffer, Mifflintown.



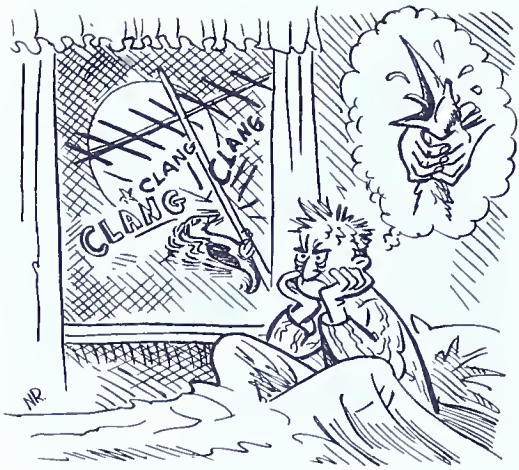


Sounds Like a Duck Farm

MIFFLIN COUNTY—Last week I received a report from a Belleville resident living along the Kishacoquillas Creek that 72 mallard ducks are making their home on his and adjoining property; several hens are hatching under his back porch.—District Game Protector George Smith, Reedsville.

Short Second Life

BLAIR COUNTY – The following episode was related to me by a Mr. Sam Shultz, who is employed as a car salesman in a local concern. Sam said while he was at work he and several other salesmen saw a rabbit start across a busy street only to be run down by a large tractor trailer. The driver stopped and picked up the injured rabbit and laid it along the curb. The salesman saw this and took the rabbit to the garage to recuperate. Sam said that he got along very nicely and in a short time they turned it loose. Whereupon Mr. Rabbit took off on a dead run and started across the street again. At the exact spot where it had tried to cross in the first place, a car ran over it and this time smashed it flatter than a pancake. – District Game Protector Russell Meyer, Altoona.



Early Morning TV Show

GREENE COUNTY – About the middle of April several mornings I was jolted from a sound sleep by a weird noise. I would get up and check all the appliances and furnace in the house because it was definitely a metallic noise. Then one morning I opened the window in the bedroom and looked outside at the television antenna that was fastened alongside the window. Up on top was a woodpecker tapping away at the pipe. This undoubtedly was a confused bird, for he was making absolutely no headway. I would recommend that bird to anyone to use as an alarm—but the trouble is he only rings at five o'clock in the morning.—District Game Protector Leslie V. Haines, Waynesburg.

Wildlife Wonderland

ROSS LEFFLER SCHOOL OF CONSERVATION – While returning to the training school on Easter Sunday evening I decided to keep track of the number of wildlife that I might see in the headlights of my car. They are as follows: 87 deer, 117 rabbits, 26 house cats, 17 opossums, 9 raccoons, one mature fox and two kits for a total of 259 animals in 138 miles, which is quite a few to be seen on the highway or along it.—Student Officer John A. Booth.

Fire Damage

WAYNE COUNTY—On April 25, I was called to a fire on State Game Lands No. 159, Wayne County. The fire had burned through a border cutting which was noted for good rabbit hunting. One observer related to me that he never saw so many rabbits in his life come out of a small area. After the fire was brought under control we were surveying the damage and we observed three rabbits coming out of ground-hog holes and going back into the burned out border cutting. Apparently the rabbits were nesting and were trying to locate their nests in the charred area.—Land Manager Wilmer R. Peoples, Hawley.

A Bad Customer

PERRY COUNTY – In the latter part of April, officer Moyle and I dug out a fox den in Greenwood Township. We were quite amazed at the amount of small game we found about and in the den. Parts of eight rabbits, two cock pheasants, two pheasant hens, one muskrat, parts of four woodchucks, and a number of small songbirds. One can readily see how destructive a fox can be on wildlife.—District Game Protector Jacob Sitlinger, Newport.

Road Kill Census

FOREST COUNTY – During the month of April, 1962, Deputy Rigby, of Tionesta, who works in Meadville, kept a list of animals that were killed on the highway. His trip, which was made five times a week, covered 50 miles one way through parts of Forest, Venango and Crowford Counties. His list on the last day of April consisted of: 42 rabbits, 21 opossums, 11 raccoons, 7 woodchucks, 5 pheasants, 5 grouse, 4 skunks, 4 cats, 3 squirrels, 2 muskrats, 2 crows, 2 dogs, 1 beaver, 1 mink, and 2 unknown. – District Game Protector Cecil Toombs, Jr., Tionesta.

CONSERVATION NEWS





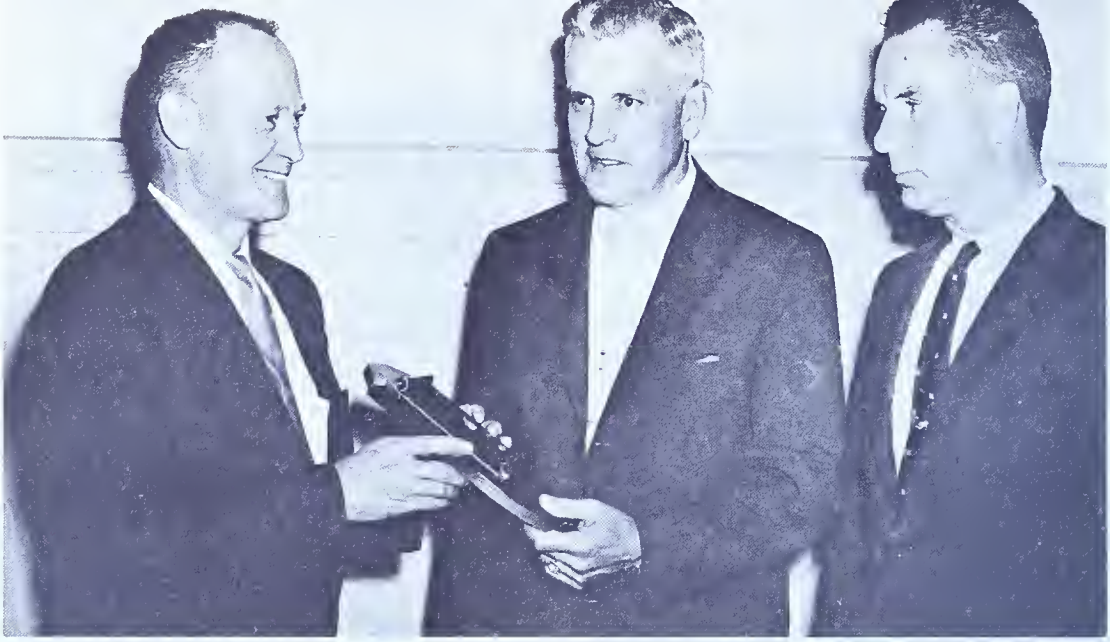
PGC Photos by Bob Parlaman

TREE AND SHRUB Distribution by Game Commission personnel has been a common sight throughout the state each spring. Farm Game Managers Don Watson and Dan Badger (left) are shown in a Crawford County distribution. Farm Game Manager Paul Mawhinney and District Game Protector Clyde Decker (right) make up individual allotments for distribution in Venango County.

Millions of Seedlings for Wildlife Habitat

Tree, vine and shrub seedlings grown at the Game Commission's Howard Nursery, in Centre County, help provide the food and cover needed by game birds and animals in Pennsylvania. Among the more important plants provided are Scotch pine, Norway spruce, multiflora rose, autumn olive, crabapple, bittersweet, black locust, coralberry, silky dogwood, tartarian honeysuckle, and lespedeza natob. The nursery will continue to produce these and other species, but emphasis will be on Scotch pine and Norway spruce as the most desirable plants for game cover. Multiflora rose and autumn olive will be favored as the most valuable food-producing species.

The output of Howard Nursery planting stock this spring numbered 5,213,850 seedlings. During last autumn 658,000 of the plants were released to the Commission's six field divisions, making the autumn-spring total 5,871,850. Of these 4,325,150 were distributed for planting on State Game Lands, other public lands and Farm Game Projects. The remaining 1,546,700 went to soil conservation districts, Future Farmers of America, sportsmen's clubs, Boy Scout groups and other organizations who plant the seedlings to improve game habitat in the state.



Photos by Thad Bukowski

LAWRENCE COUNTY SPORTSMAN OF THE YEAR award is presented to District Game Protector Calvin A. Hooper (center) by Al Cartwright, President of the Lawrence County Council of Conservation Clubs. Roger Latham, Outdoor Editor of the Pittsburgh Press, the speaker at the May 12 banquet in New Castle, watches the presentation.

Good News From Pymatuning Eagles

A good report on the Pymatuning eagles comes from Game Commission Waterfowl Management Agent Ray Sickles.

"I am glad to report that two American bald eagles have begun to incubate eggs in nests located in the Pymatuning area," said Sickles this spring.

However, waterfowl expert Sickles warns not to be too optimistic because many things can and do happen to eagle's nests before the youngsters are old enough to fly. Both of these same nests were occupied last year, but neither was successful.

It is hoped that nest failures will not repeat and that Pennsylvania can help bolster the nation's shrinking eagle population.

New Conservation Film Available

Pennsylvania sportsmen will be interested in a new film just released by the U. S. Department of Agriculture, Soil Conservation Service. This film, "We Share This Land," skillfully illustrates the values of conservation farming for wildlife. Many birds and animals are seen in the film, which tells how conservation practices improve food and shelter for wildlife.

The movie is 14 minutes in running time, is in sound and color, and has been cleared for television. It should have wide appeal to the sportsmen of Pennsylvania. The film is available by writing to the Soil Conservation Service, 100 North Cameron Street, Harrisburg.

MANY GROUSE LOST TO HIGHWAY VEHICLES

The slower pace of the horse-and-buggy days favored grouse survival, say two Game Protectors. Levi Whippo, Lycoming County, reports that twelve grouse were road killed on the few miles of highway between Loyalsock and Barbours during April. Dean Rockwell, Carbon County, reports: "Vehicular traffic has taken a heavy toll of grouse and rabbits in my district this spring. I've never seen so many grouse killed on the highway."

State Notified of Preliminary Pittman-Robertson Share

Pennsylvania's preliminary apportionment of Federal Aid in Wildlife funds for the year starting July 1 is $384,068.75, the Game Commission has been advised.

This amount is $2,861.37 more than this state's preliminary share last year. The 1961-62 year preliminary apportionment of $381,207.38 and the final, supplemental apportionment of $159,989.15 brought Pennsylvania's total for the year ending June 30, 1962, to $541,196.53.

Federal Aid funds for the various states' wildlife projects are derived from an excise tax on sporting arms and ammunition. Distribution of the funds is made on formulas based upon the number of paid license holders in a state and on its area, as prescribed by law. Federal Aid in Wildlife Restoration is administered by the Bureau of Sport Fisheries and Wildlife, U. S. Fish and Wildlife Service.

CLUB DEVELOPS DOG TRAINING AREA

"When members of the Emlenton Rod and Gun Club finish developing game food and cover on their grounds they should have one of the best dog training areas in the state," says Game Protector John Miller, Venango County, continuing:

"With the assistance of Northwest Division personnel and myself, the club members have laid off contour strips. These strips will be planted to such cover as lespedeza, multiflora rose and others. Food will be planted adjacent to escape cover. Also, several sections of corn will be planted, along with rye grass. Shrubs and trees are being planted in clusters in sections not suitable for contour strips. Border cuttings and brush piles are the order for this fall," Miller concluded.



PGC Photo by Joe Chick

ALTOONA AND BELLWOOD HIGH SCHOOL STUDENTS listen to Land Management Officer Roland Turley, of Martinsburg, as he explains the conservation practices used by the Game Commission on Game Lands No. 166 in Blair County. The teachers accompanying the May 2 trip were Miss Helen Cherry, Altoona, and John Callas, Bellwood.



Photo by Leonard Lee Rue

A GRUESOME SIGHT. This was once a beautiful white-tailed deer before a pack of free-running dogs caught up with it. Pennsylvania has been plagued this year with dogs killing deer and other wildlife throughout the state.

Dogs Causing High Wildlife Mortality

Dogs running wild in Pennsylvania this spring and early summer have caused considerable damage to our wildlife populations here.

On May 2, Clarence Wilkinson, Superintendent of the Southwest Game Farm, heard a report of a deer hit by a train. Further investigation showed that it was not a train, but free running dogs which had caused the deer's death. It was a doe containing three embryo fawns, two female and one male.

Game Protector Paul Miller, of Crawford County, feels that many of the deer hit by automobiles in his area are being chased by dogs at the time.

Huntingdon County is making a special effort this spring to curb the increasing game kills made by dogs in that area.

Game Commission figures show a total of 310 deer reported killed by dogs during the months of February, March and April. The amount of damage to other wildlife besides deer is difficult to determine, but it is probably quite high.

Fox Hunting Petitions Granted

A valid fox hunting petition has been presented by each of the counties below named. Within these counties the use of dogs for fox hunting is therefore legal throughout the year, except for the 60-day closed period indicated.

Armstrong	April 1-May 30
Bradford	April 1-May 30
Blair	April 1-May 30
Butler	April 1-May 30
Centre	April 1-May 30
Clearfield	April 1-May 30
Clinton	April 1-May 30
Crawford	April 1-May 30
Erie	April 1-May 30
Fayette	June 1-July 30
Greene	April 1-May 30
Indiana	April 1-May 30
Jefferson	April 1-May 30
Lancaster	May 2-June 30
Lycoming	April 1-May 30
Mercer	April 1-May 30
Schuylkill	April 1-May 30
Susquehanna	April 1-May 30
Venango	April 1-May 30
Westmoreland	April 1-May 30
York	May 2-June 30

The Game Law stipulates that, in any county, 250 or more residents who held a hunting license the previous year or who are farmers or sheep raisers may petition the right to hunt foxes with dogs, day or night, throughout the year except for a 60-day period designated by the Game Commission. Fox hunting without dogs is legal the year around state-wide.

Changing Your Address? Don't Forget GAME NEWS

The Post Office will not forward copies unless you pay extra postage and we cannot replace lost copies. SO PLEASE . . . at least six weeks before the first issue to go to the new address, send us your name, new address including postal zone, and your old address. Mail to GAME NEWS, Pennsylvania Game Commission, Harrisburg, Pa.

TIPS FOR HUNTERS



DO IT YOURSELF PACKRACK

A comfortable pack rack can be fashioned from the curved back rungs of a discarded or broken chair plus a few other castoff materials. The harness is war surplus, the backing is an old piece of canvas. Two strips of aluminum fastened on the diagonals at the bottom make the rack rigid.—*Reverend George L. Harting.*

Problem Rabbits

As game animals, cottontail rabbits provide much sport for Pennsylvania hunters in autumn. In winter most folks enjoy seeing "cute bunnies" hopping about in the snow. But nurserymen, orchardists and homeowners do not appreciate rabbits cutting and barking stock and shrubbery in winter. During spring and early summer many suffering flower growers and vegetable gardeners view the cottontails as destructive pests. What to do about trouble-making rabbits is a problem. The solution in one part of town may not "work" in another.

Game Commission officers and agents have live-trapped more than 48,600 cottontails from garden areas, parks, cemeteries and other places early this year and liberated them in open hunting territory miles away. But this annual program never completely alleviates the damage problem. Also, rabbits that will come to bait in a trap in winter, when their food is scarce, rarely can be enticed into a trap when succulent foods are everywhere available.

Game Protectors will advise gardeners about repellents and devices that discourage the nibblers, but for small gardens the best protection is 12- or 15-inch screening staked up as a fence to exclude br'er cottontail.

Care should be used in choosing and using repellents. Some chemicals distasteful to rabbits are also noxious to humans and pets, particularly if used on leafy vegetables. Many gardeners prefer Rotenone because it controls insect damage, is distasteful to rabbits and is not injurious to humans.

Answers Unscrambled

(From Pages 32-33)

1. Woodcock's main food is worms.
2. The nighthawk prowls the night for insects.
3. Grouse and grapes are inseparable.
4. Beaver cuts the bark from the aspen tree.
5. Mink prefer minnows and larger fish.
6. Favorite food of the turkey is the beech nut.
7. Woodchucks build their dens in the midst of their favorite food, the red clover.
8. Quail consume large quantities of seeds.
9. The squirrel is the nuttiest minded animal in the woods.
10. Muskrats like roots of aquatic plants, and mussels, too.
11. Deer subsists on browse including the bark of sumac.
12. Hemlock bark is a stable food for the porcupine.



PGC Photo by Bob Parlaman

OUTDOOR WRITERS AT PITHOLE are shown here as they tour the city that no longer exists near Titusville. The Pithole tour was just one highlight of a weekend-long meeting in Crawford County, May 11-13.

Outdoor Writers See Crawford County

A group of about 35 Pennsylvania outdoor writers and their wives attended a weekend workshop in Crawford County, May 11-13.

Beginning with a tour of the Fisher and Young sawmill and tree farm near Titusville on Friday afternoon, the group then proceeded to the Ro Ho Cho Motel near Meadville where they spent both Friday and Saturday nights.

On Saturday morning the outdoor writers heard an address by S. Carlyle Sheldon, Northwest Division Supervisor for the Pennsylvania Fish Commission, who talked about the fish management program in Conneaut and Pymatuning Lakes. A second talk was given by Raymond Sickles, Game Commission Waterfowl Management Agent, who discussed Pennsylvania's Waterfowl program with emphasis on the new Pymatuning Goose Management Area.

After a lunch at the Conneaut Lake Cafeteria, the writers and their wives boarded a bus and toured the Linesville Fish Hatchery, the Pymatuning Waterfowl Museum, the Goose Management Area, the Game Commission Duck Farm and other Crawford County areas.

After a dinner at the Linesville Sportsman's Club the weekend was concluded with a Sunday trip to Pithole, the famous ghost town of the post-Civil War days and the Drake Well Park in Titusville.

Game Commission Maps Now Available

The Pennsylvania Game Commission has recently made available to the public three kinds of maps.

Individual county maps costing $.30 each show roads, main streams, towns, State Game Lands and State Forest locations. The 18 x 24-inch maps are black and white.

Smaller county maps selling in two regional sets cost only $.25 a set. Available in 8½ x 11-inch sizes are a set of the ten counties in northcentral Pennsylvania and a set of thirteen counties in northeastern Pennsylvania. Other regional sets will be available soon.

State Game Lands Maps costing $.75 each show courses and distances of boundary lines, location of main streams and roads and other data of interest to sportsmen, surveyors, lumbermen, utility companies, etc.

In addition to the maps, the Commission is also offering a Pennsylvania index to topographic maps free of charge. The index outlines maps available from the U. S. Government.

The Commission maps and topographic index may be obtained from the Pennsylvania Game Commission, Harrisburg, Pa. Enclose check or money order with each map request.

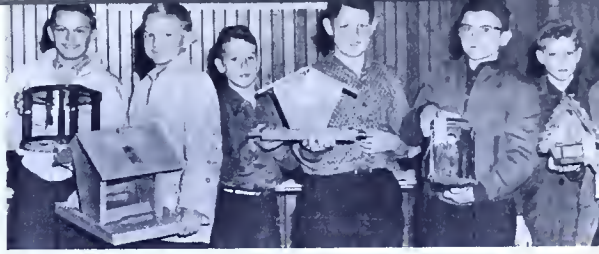


Photo by Allen Zook

FIRST PRIZE WINNERS in the birdhouse and feeder contest held at the Milton Hershey School this spring. Under the supervision of Hershey Farms Recreation Director Floyd M. Morgan, the boys built 90 houses and feeders which have since been erected on the wildlife preserve at the Farms.

Penn State U. Helps Enlighten Public on Deer Management

The deer is a native game species which provides much enjoyment for Pennsylvania hunters. In addition, many other citizens thrill at the sight of this big game animal and almost everyone has some interest in deer. However, the popular whitetail is something of a problem child among nature's children. The state owns the deer herd and is entrusted with its management. Owners of forest land and farmers provide not only places for deer to live and feed but also places for hunters to pursue them. Not all landowners are hunters and not all hunters are landowners, therefore the deer is subject to conflicting interests.

Over the recent years the Game Commission has enjoyed the backing and cooperation of many farmers, foresters and enlightened outdoorsmen in advocating a deer herd more nearly in balance with the range. Much assistance toward better informing the public on deer management has been given by the Extension Service of The Pennsylvania State University. Robert G. Wingard, the University's Wildlife Management Specialist, reports that within the last two years, several thousand farmers, sportsmen, businessmen and other interested citizens in approximately twenty counties have broadened their understanding of Pennsylvania deer management through seminars conducted by the Extension Service.

These educational programs feature short, formal presentations by Penn State Extension specialists and biologists of the Game Commission. Various aspects of deer management are considered: deer economics and policy, deer and forestry, deer biology, population and effects of hunting, and deer and recreation. Knowledge, ideas, comments and viewpoints are shared by audience and panelists in the open discussion period. Such discussions freely reflect the concerns of the group. Critical and controversial public issues are considered at these meetings and the atmosphere has been informative and stimulating.

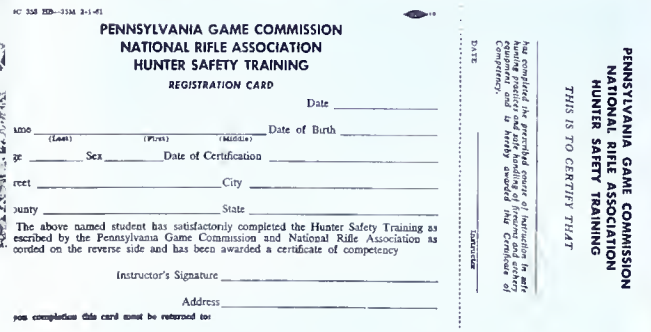
Persons interested in bringing a deer management seminar to their locality should contact their County Agricultural Agent or write to Robert Wingard, Wildlife Management Specialist at The Pennsylvania State University, University Park, Pa.

"SEEDLINGS ARE PLANTED LIKE THIS," explains Acting Land Manager Henry Rodeghiero as he shows members of the Plains Conservation Club and Boy Scouts of Troops 100, 91 and 48 how the Game Commission plants seedlings. Rodeghiero and District Game Protector Howard Bower (extreme right) were in charge of the operation.

PGC Photo by Steve Kish



HUNTER SAFETY EDUCATION



PENNSYLVANIA GAME COMMISSION
NATIONAL RIFLE ASSOCIATION
HUNTER SAFETY TRAINING
REGISTRATION CARD

Date _____

ame _____ Date of Birth _____
(Last) (First) (Middle)

ge _____ Sex _____ Date of Certification _____

reet _____ City _____

ounty _____ State _____

The above named student has satisfactorily completed the Hunter Safety Training as escribed by the Pennsylvania Game Commission and National Rifle Association as corded on the reverse side and has been awarded a certificate of competency

Instructor's Signature _____

Address _____

pon completion this card must be returned to:

PENNSYLVANIA GAME COMMISSION
NATIONAL RIFLE ASSOCIATION
HUNTER SAFETY TRAINING

THIS IS TO CERTIFY THAT

has completed the prescribed course of instruction in safe handling and use of firearms and hunting equipment, and is hereby awarded this Certificate of Competency.

DATE _____ Instructor

BLUE CARD REGISTRATION for Pennsylvania Game Commission Hunter Safety qualification. Instructors are asked to have students complete these registration cards available from the local Game Protector. Qualified students are entitled to wear the N.R.A. Safe Hunter Patch (right).

Safety Materials Available

Students completing the required four-hour hunter safety course given by a qualified Hunter Safety Instructor are entitled to the hunter safety arm brassard and the blue certification card.

This material is available from the District Game Protector who has been designated as coordinator of the Hunter Safety Education program in that area to which he is assigned.

It is important that all students completing the course shall be properly registered and recorded so that the program may be accurately evaluated and accredited. The Pennsylvania Game Commission will maintain a file of students who have successfully completed the course.

Pennsylvania Game Commission
Hunter Safety Certified
To Date:

Instructors	3,579
Students	42,279



For the convenience of instructors the below listed N.R.A. training materials are available from the District Game Protector at the prices as indicated:

Student's Registration and I.D. Cards	No Charge
N.R.A. Hunter Safety Handbook (for students)	10c
Bow Hunting Supplement (for students)	10c
Hunter Safety Instructor's Guide	25c
Student Shoulder Patch	25c

Excellent Hunter Safety Class At Penn State University

A two-day hunter safety course for instructors was held at The Pennsylvania State University late in March. Game Protector Charles Laird reports that the 20 members of the class were Boy Scout, FFA and 4-H Club leaders in Centre County.

John McHugh, instructor in the School of Physical Education, Game Protectors Joseph Wiker and Laird were the instructors. Laird said that he has attended many such meetings, but none of the others was as well received.



A TRIO OF GOLDFINCHES twitter in their undulation flight as they visit the flower gardens in search of seeds. The males are yellow with black caps and wings and conspicuous white wing bars. The females are a drab olive color. They enjoy the seeds of the bachelor buttons and cosmos.

Twenty-four of Twenty-five Wildflowers Are . . .

Wayfarers in the Boas Street Woods

By Marian N. Baker

JULY is a hot and sizzling month. Early this morning a thunderstorm caused a pelting shower that rattled among the leaves of the Norway maple and pounded on the porch roof. As soon as it passed the sun came out and the rain drops, trapped in the leaves, sparkled like jewels. Now at the slightest stirring of the branches a secondary shower dampens the passers-by. A little child looked up in surprise and said, "It's raining" and held out her hands to the cool drops.

The shower, instead of lessening the heat of the day, has added to the humidity and we now have the sensation of being steamed. To further heighten the effect the cicadas or harvest flies are giving their sizzling, vibrating calls which mean that summer is at high noon and the mourning dove's doleful notes seem to lament its passing. When we have this kind of weather, Mr. B always mentions the fact that it is good weather for corn. So with this in mind we bear up as best we can.



A trio of goldfinches twitter in their undulating flight as they visit the flower gardens in search of seeds. You will have no difficulty in identifying these little birds. The males are yellow with black caps and wings; the females that accompany them are dull olive green with dark wings and conspicuous wing bars. They enjoy the seeds of bachelor buttons and cosmos. One time I watched several hundred of these birds, in a carnival mood, feasting on the seeds of the tiny hemlock cones in a mountain ravine.

Late Nesters

Goldfinches are late in taking up their nesting duties. Not until the thistles mature and produce their silken parachutes do the goldfinches begin housekeeping. Thistle down is such a requirement for their nests that they have been called thistle birds—the distilfink of the Pennsylvania Germans. I have not found any of their nests in the Boas Street Woods, but at other times I have found them placed like a cup in the fork of a branch. The essential thistle down in the ones I observed was not placed inside as a downy comforter, but rather adorned the outside of the nest and seemed to be purely ornamental.

Not Just Weeds

The wild flowers in the Boas Street Woods are basking in this growing weather. To many people they are only weeds, but to someone confined to the limits of a city street, they are the only wild flowers available and many pleasant little discoveries can be made among them. An added attraction is the fact that you can't harm the plants by plucking their flowers and furthermore no one cares if you do.

This would certainly be the time and place to collect those wild flowers which some biology students are required to collect in the early months of spring when only the more delicate and desirable flowers are available.

With this in mind I took a walk in the Boas Street Woods and returned



QUEEN-ANNE'S-LACE (DAUCUS CAROTA L.)

by way of the alley. The wild flowers were growing more lush and uninhibited in the alley, but many of the same ones, with slight adaptations in their manner of growth, were growing in even the best kept lawns. Without making any search I saw twenty-five different kinds of wild flowers in bloom—surely enough to satisfy the amateur botanist.

Since these special kinds of wild flowers are notorious for getting about, I looked in Gray's Manual of Botany to see which were listed as native plants and which as introduced and naturalized ones. I was surprised to find that twenty-four of the twenty-five that I had found were listed as introduced species.

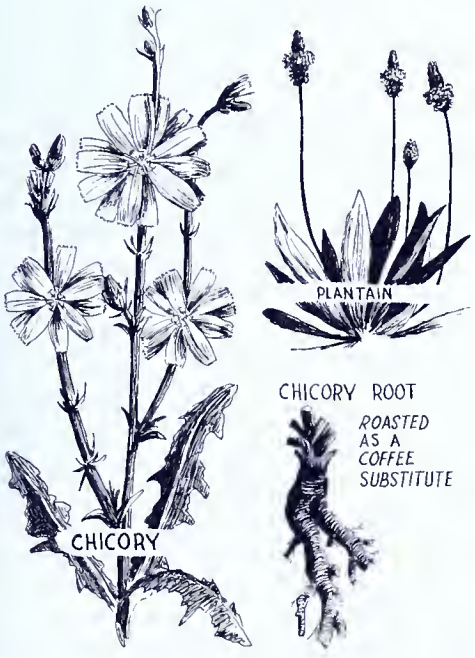
The White-Man's Foot

One of the Indian names for the common plantain is "the white-man's foot" because they observed that it appeared in the wake of the settlers. How well could this same name be applied to the twenty-four wayfarers in the Boas Street Woods.

In order to be eligible for the qualifying adjective, naturalized, a plant must be thoroughly established after coming from a foreign country.

The history of the travels of any one of our wayfarers would be a fascinating story. They came in ancient sailing vessels and crossed the country with trappers and traders; they rode in covered wagons and in the rough coats of the oxen and on the wings of the wind. Because of their sturdy natures they survived when more desirable plants would have perished.

Who are some of these sturdy wayfarers? Here is one with a royal name —Queen Anne's lace — and what a lovely medallion of filmy white lace it is. I found one cluster of flowers peeking through a well-clipped hedge; the main part of the plant with its fernlike leaves being well protected among the shrubby stalks. The medallion is made up of many tiny white flowers arranged in small medallions in such a way that they present a flat surface to the light. This is accomplished by the stems of the small medallions being of varying lengths and arising from a common center. This kind of flower arrangement is called an umbel. In the very center of the large medallion, on a stem of its own, is one purple flower.



Another name for this wayfarer is wild carrot. It is thought to be the plant from which our cultivated carrot has been developed.

Great Travelers

There is no doubt that this plant has the ability to travel; even though it is not particularly palatable to birds it is not at a loss for transportation. Each of the tiny five-petaled flowers that make up the umbel produces a prickly little seed, which we, as children, used to call "beggar's lice." Anyone who has walked through a field of Queen Anne's lace in the fall and has spent hours removing the seeds from his clothing needs no further description of how they are transported. When the seeds are maturing the whole umbel closes to form a cup-shaped structure that resembles a bird's nest.

Thrives in the Alley

Another wanderer from Europe that appeared in our flower bed is wild lettuce. It grows to great heights in the alley, some plants reaching six feet; the plant in our flower bed is about three feet tall. The stalk itself is smooth but the alternate, clasping leaves which clothe it have a row of spines along the underside of the midrib. The leaves look something like a dandelion leaf and like the dandelions have a milky juice. The yellow flowers which cluster at the top are like miniature dandelions and like them produce quantities of seeds equipped with parachutes with which to be carried to the four corners of the earth. Wild lettuce has a peculiar fashion of turning the leaves in such a way that it presents the edges to the midday sun. This gives the plant a contorted and flattened appearance. Some say that the leaves point north and south and for this reason it and some of its near relatives are called "compass plants."

There is practically no lawn in our neighborhood that does not have its quota of plantain. The common plan-

tain or white-man's foot with its broad, parallel-veined leaves and spikes of inconspicuous flowers, which produce green rice-like seeds before you notice there are any flowers there, is the most common. The rabbit population of the Boas Street Woods enjoys both the leaves and the seeds of this plant. They seem to draw in the long spikes of seeds after having first nipped them off at the bottom.

A second kind of plantain, called ripple of English plantain, has a narrow leaf with parallel veins and produces its flowers in a compact spike at the end of a long slender stalk which stands tall above the grass. Both forms of plantain came to us from Europe.

Floated Into the Yard

A strange wayfarer floated into our yard last summer and took up residence under the pear tree. We didn't notice its presence until late in the fall when I noticed a compact rosette of leaves like that of a dandelion, but very prickly throughout. It remained green under the snow and early this spring produced a stalk six feet tall, clothed with deep cut ragged leaves and stout spines both on the stalk and leaves. The top of the stalk branched and produced round prickly buds about an inch in diameter which, when open, were like lavender powder puffs. These were the flowers of the common or bull thistle. Each puff, like the flowers of the dandelion and the wild lettuce, was not just one flower but a composite of many tube flowers, which, like many other members of the composite family, produce seeds with parachutes. With this means of transportation they get around, but being biennials it is two years before they produce seeds.


BULL THISTLE
(CIRSIUM LANCEOLATUM)

This particular plant is harboring a colony of little brown aphids (plant lice) among the prickles of the upper branches. Whether they came there of their own free will or whether the ants brought them, I do not know. At any rate a colony of ants is feeding on the honeydew secreted by the aphids.

Another wayfarer that pops up in every garden, sooner or later, is Galinsoga; I have never heard any common name for it. It has the distinction of being a native of tropical America which has been introduced into Europe as a weed. The plant is bushy with thin, opposite, hairy leaves that are all in one piece and tiny white five-petaled flowers. Each petal has two notches at the tip. Like other members of the composite family this flower is really not a single flower, but a collection of two kinds of very small flowers. The yellow ones in the center are called disc flowers and the white ones arranged around the outside and boasting one white petal each are called ray flowers. The common white daisy which has found its way into Boas Street has this same arrangement of yellow disc flowers in the center and white ray flowers around the outside. The cultivated sunflowers of the garden offer a much magnified view of this same plan. The seeds of these flowers do not develop parachutes but travel as stowaways in field and garden products. As far as nationality is concerned the white daisy is a n

tive of Europe and the sunflower of our own western United States.

You will discover all these and many more wayfarers in any Boas Street Woods. My list this morning included the following:

Wood sorrel	Asiatic dayflower
English plantain	Chickweed
Common plantain	Lamb's-quarters
Nightshade	Dock
Peppergrass	Galinsoga
White daisy	Common mallow
Motherwort	White melilot
Selfheal	Yellow melilot
Bull thistle	Ground ivy
Wild lettuce	Poison ivy
Red clover	Wild carrot
White clover	Spotted spurge
Dandelion	Common purslane
Chicory	

SUGGESTIONS

Make an herbarium of the wild flowers found in your block.

An herbarium is a collection of pressed plants mounted on heavy white paper and labeled with reference to name, place found, date and habitat (Conditions under which the plant was growing).

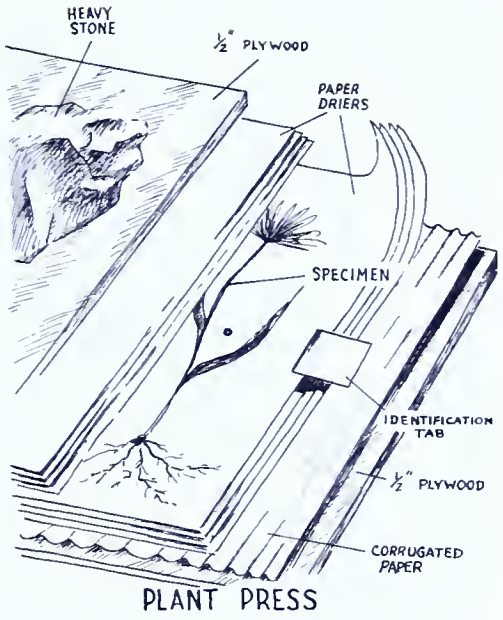
The equipment for pressing plants may be as elaborate as you care to make it. Presses and mounting materials may be purchased from a biological supply house or you can make your own.

To make a flower press you will need the following material:

1. Two pieces of one-half-inch plywood or other smooth board approximately 12″ x 18″ for the top and bottom of the press.
2. A heavy stone for a weight after the press is filled.
3. Newspapers folded and trimmed to the size of the press to be used as driers.
4. Five or six sheets of corrugated paper to provide air spaces between specimens.

Procedure for filling press:

Place a sheet of corrugated paper on one of the plywood boards, on top of this add five or six sheets of newspaper. Then between the folds of the next sheet arrange a flower specimen. Insert a tab to show where the specimen is located and add several more sheets of newspaper. Continue building up in this manner (corrugated paper, driers, plant specimen and driers), until all your specimens are used. Then place the second piece of plywood on top and weight it down with the stone. Keep the press in a warm dry place for a week.



PLANT PRESS

If the plants are fleshy it may be necessary to remove the driers each day and replace them with dry ones, being careful not to disturb the ones in direct contact with the specimens.

Best Specimens Show Everything

When selecting a plant to be pressed it is necessary to keep in mind the size of the press. The best specimens are those which show all characteristics, including the root.

Arranging plant specimens between the sheets of the driers takes time and patience. Care must be taken that flower parts do not overlap. To avoid this it will often be necessary to remove some of the large leaves.

In the case of a fleshy specimen, like the common plantain, slice the

flower spike lengthwise so that it will lie flat on the paper. Remove all the leaves but two or three, turn one leaf so that it shows the underneath surface. Retain enough of the root to show its fibrous nature.

When the plants are thoroughly dry, place each one on a sheet of plain white paper and fasten here and there with narrow strips of tape. Or if you prefer, get some herbarium glue, roll a thin layer of it on a piece of glass, place the dried specimen, face up, in the glue, then transfer it immediately to the white paper. This involves all the hazards of paper hanging, but is well worth the effort.

In the lower right hand corner of each sheet place the label.

Name: Common plantain
(Plantago major)
Date: 5/6/62
Place Found: Boas Street Woods
Habitat: Open lawn
M.N.B.

LABEL

A Friendly Atmosphere Prevails On the Line of . . .

The Double American

By Tom Forbes

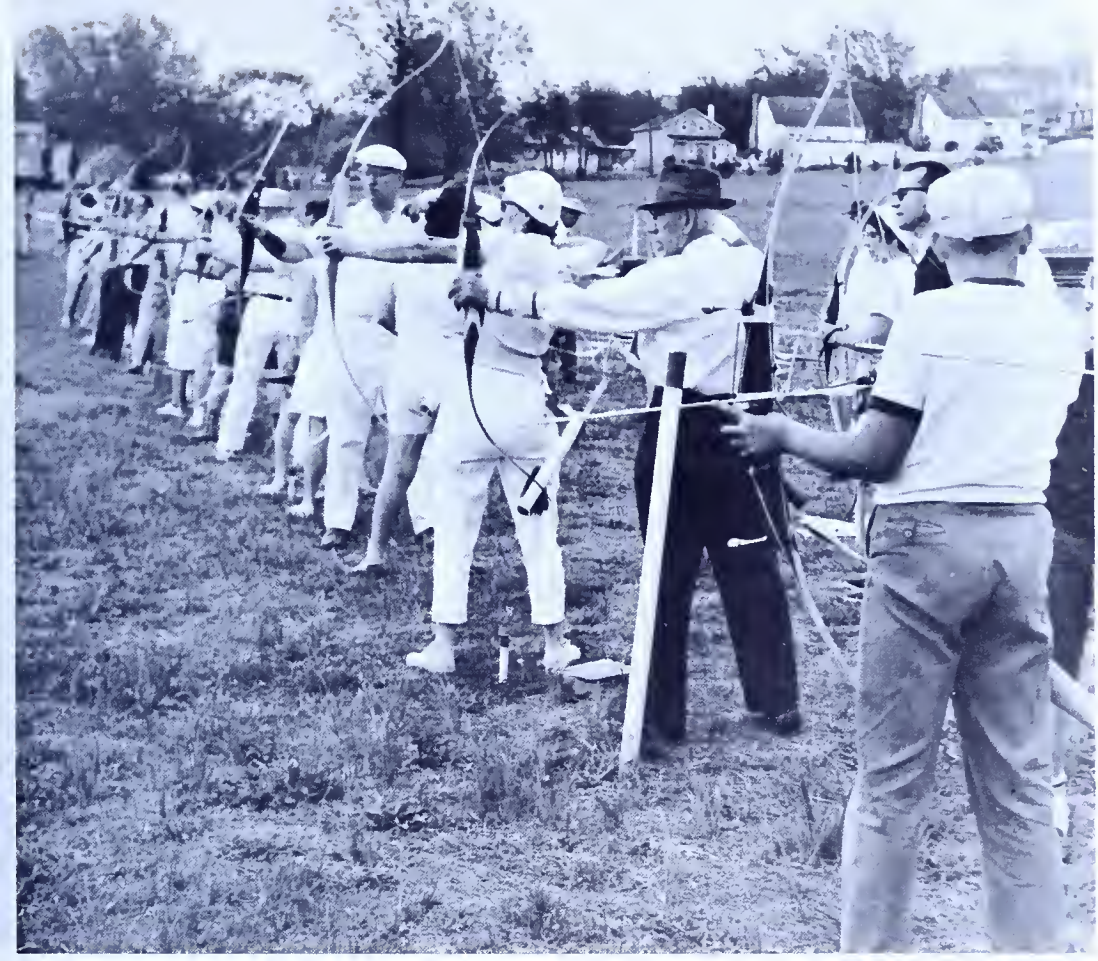
Photos by the Author

IT IS increasingly evident that the successful club is the one that offers the greatest variety of competition to its members. The time has passed when the club members were content to shoot the same round under the same conditions, day after day and week after week. A decline in membership in many clubs can be attributed to lack of diversification and a failure of the officers to offer the membership opportunities to engage in all phases of the sport of archery.

When field archery was introduced in Pennsylvania it enjoyed a tremendous initial popularity because it offered a phase of the sport that had been, to a large extent, ignored by the established clubs where competition was generally limited to the target rounds. Target archers tried the field courses but found that they were not particularly welcomed because of their method of shooting. Many of the newly formed field clubs barred the use of a sight in competition. Gradually this rule was relaxed to the extent that it was permissible to use a sight provided that it was firmly fixed in one position on the bow. It soon became evident that the use of a sight on a bow resulted in a higher score on the field courses. Since any archer likes to improve his marksmanship the field archers began to try the sight. Today we have advanced to the point that many clubs have waived all restrictions on the method of shooting and the use of the sight is general among field archers. The established target clubs added a field course to attract new members and many of the members who had never participated in target archery were introduced to this phase of the sport.



In target archery all archers are classified in accordance with their



TARGET LINE at York's Memorial Park, home range of the York archers. The gentleman second from the right is 77 years old. He just learned to use the bow and arrow this year and is having a ball!

scores shot on the American Round. The American Round consists of 30 arrows shot from 60 yards, 30 from 50 yards and 30 from 40 yards; a total of 90 arrows. A friendly atmosphere prevails on a target line that is impossible to attain on the field course. Competitors have a full view of the entire shooting line and can engage in friendly conversation and social contact with their fellow archers. Many enduring friendships are formed during the course of a round. Any field club can inject new life in its members by offering them the opportunity to enjoy the American Round.

The standard target is a round bast of spirally sewn straw, covered with a face divided into a central disc, 9 3/5 inches in diameter, and with four concentric rings, each 4 4/5 inches in width; painted respectively, from within to out, gold, red, pale blue, black and white. The target values are: gold, 9; red, 7; pale blue, 5; black, 3; and white, 1. The targets are placed on easels made of soft wood, the center of the gold is placed four feet from the ground. The maximum possible score for a single American Round is 810; a double American 1,620. Men are classified AA from 1,400 up; Class A, 1,250 to 1,399; Class B, 1,000 to 1,249; and below 1,000 Class C. Women are classified AA from 1,300 up; Class A, from 1,150 to 1,299; Class B, 950 to 1,149; and Class C, below 950.

Itemized Amount

A scorer shall keep a strictly itemized account of the value of every arrow that hits the target. Unless arrows are separately itemized they cannot be counted. Each archer shoots

six arrows at one time, called an end. Unless excused by his target captain, he shoots three arrows, yields his place to his target mate and then in turn shoots the other three. Four archers shoot at each target. They take their place on the shooting line two at a time, shoot three arrows and then step back to permit the other two archers to shoot three arrows.

Arrows Stay in Target

In scoring arrows must remain in the target until withdrawn by the target captain or his deputy in the presence of the scorer. If an arrow cuts two colors it shall count as having hit the inner one. An arrow passing through any part of the scoring face of the target shall count as a blue. An arrow shot at ranges of 60 yards or less rebounding from the scoring face of the target shall count as a red; rebounds must be witnessed to be counted.

An arrow leaving the bow shall be deemed shot if the archer, while standing where he has been shooting, cannot reach it with his bow. If any part of an archer's tackle breaks during the act of shooting, it shall not be an excuse for repeating the shot and a hit or hits on a target not assigned to an archer shall not be counted.

Appoints Target Captain

The field captain appoints at each target one of the archers to be target captain and another to be the scorer. The target captain orders all shooting at his target and settles all local questions. Appeals from his rulings may be made to the field captain, whose word shall be final. The field captain controls the shooting line. Shooting starts only on his signal, generally a blast on a whistle and ceases on a second blast when the contestants have completed an end of six arrows. The archers are then permitted to go to the targets to retrieve and score their arrows. To avoid delays, one archer at each target should be delegated to retrieve arrows that have missed the target bast while the end is being scored. If



JUNIOR LINE at York's Memorial Park Target Tournament. These youngsters have learned to enjoy the sport along with their parents on outings such as this.

he is unable to locate the arrow in the allotted time no further search should be made until the end of the round. At that time a further search for the missing arrow or arrows may be made by all of the archers assigned to the target.

Standards of Conduct

Etiquette is the voluntary acceptance and observance of long established standards of conduct in our contact with each other. Our company is sought or avoided by the standard of conduct we establish for ourselves. Consideration of your fellow archers is necessary on the tournament line. Do nothing that will distract the attention of a teammate who is concentrating on hitting the target. Boisterous acts or loud conversation are to be avoided. Nevertheless the hum of con

versation as archers compare tackle, shooting methods, or reminisce about mutual friends or past tournaments is part of the fun and enjoyment that is evident behind the shooting line when an American Round is shot.

When a double American Round is being shot it is the general practice to shoot one round in the morning and one in the afternoon. Except at championship tournaments where advance registration is required target assignments for the morning round are generally made as archers arrive and register for the tournament; the first four arrivals are assigned to number 1 target and so on down the line. No attempt is made in the morning round to assign archers to targets by their class. At the end of the morning round scores are totaled and target assignments for the afternoon are made on the basis of the morning scores with the four highest scorers assigned to number 1 target. In this manner it is impossible to develop little cliques of archers who always shoot together. You associate with all of the club members on the shooting line at one tournament or another and the club benefits from the social contacts between members. In the afternoon you are shooting on a target with members who are probably in your class making the competition particularly keen on your target. An added incentive in target competition is the target award. At the conclusion of the afternoon round the score is totaled and added to that of the morning round. The highest scoring archer on each target wins the target award. You may be shooting on the last target in the line, but there is competition among your target mates for the target award. During a target tournament the individual is never without information as to how the other archers are shooting. Word passes up and down the shooting line on the standing at the moment of the archers on number 1 target and as there are class awards these archers automatically find themselves assigned to the same or adjoining targets in the afternoon round. A target archer knows whether he is leading or trailing the field in his class at any time during the afternoon round. This fellowship and continuous exchange of information are not possible on the field course during a shoot.

Since the bow sight is now popular on many field courses and many field archers have increased their scores through its use, it should be pointed out that the best marksmen use the under jaw anchor in combination with the bow sight. It is like learning to shoot again when you switch from the high anchor used in the hunting field but it pays off on the target range in high scores. When you have learned to use either anchor you can switch from one to the other without any adverse effects on your shooting.

TACKLE ON THE SHOOTING LINE. Their equipment is as varied as their scores.





OUTDOOR WARMING UP on the difficult 50-foot I.S.U. Olympic target. Junior riflemen's head coach William Varner uses the new Olympic Model 40X Remington which requires close holding for just average scores.

Back to a Nation of Marksmen

By Jim Varner

Photos by the Author

IT HAS been said that if one shouts loud and long enough he will be heard. After what seemed to be a long, uphill battle for our instructors since World War II, the trend today toward learning how to use all types of firearms efficiently, safely and properly is really encouraging. The long and loud shouts of marksmanship instructors are finally being heard.

From this writer's experience during World War II, a terrific upswing in marksmanship interest occurred followed by a great slump after the danger of war had passed. During the war I trained draftees, civilian groups and others who were totally ignorant of what constituted the makeup of any firearm. This happened during the hysteria brought about by Germany's threatening successes and Pearl Harbor.

Isn't it a fact we forget so quickly. Following this period of darkness where it seemed our lives were threatened, the war and its threats quickly passed from our thoughts and so did marksmanship. We are a little like a rabbit scared out of his wits escaping a chasing dog or a slinking house cat. Said rabbit forgets his narrow escape from death immediately. It is an out of sight – out of mind proposition. Does this not closely describe the marksmanship picture of the past? We cannot learn to handle a firearm all of a sudden when an intruder—a dangerous criminal—is at our door! Remember how our British friends screamed for firearms (having been denied their use by law) when it looked like they were going to be invaded by an army imbued with the teachings of a degenerate like Hitler.

Well, we were fortunate and rode it out to a successful finish in spite of tremendous sacrifices due to total unpreparedness. Immediately, however, we slumped back into a shell of smug irresponsibility and inert thinking as soon as the Peace Treaty was signed. Again, we used about the same "cunning" as the rabbit. Our returning soldiers had seen enough of firearms to do them for the rest of their lives. Outside of some hunting, we sank to a new low as a nation of riflemen.



Old rifle clubs deteriorated to the vanishing point.

I know, because I attempted to put on a big Thanksgiving Day turkey shoot the year after the fireworks ended. Remington Arms Company, the N.R.A. and local clubs all joined in and gave me the best of assistance. We had a shoot set up to take care of all the shooters from northern Pennsylvania and southern New York. The Apawana Golf Course was reserved for the big event. To make a long story short, we landed in the "red" to the tune of 35 dressed turkeys and nearly $100 owed.

Just About Quit

I came near to developing a severe case of pneumonia from overworking and trying to make a success of the shoot. I planned to drop out of the shooting game for the rest of my life. There is no fool like an "old fool" they say. That was 15 or 16 years ago and I am still doing all my health allows to keep the game going. What a disease!

Lethargy Until Korea

Our state, as well as the nation, stayed in this marksmanship lethargy till the Korean conflict revived the old spirit slightly. Our national and international teams were defeated consistently everywhere they attempted to match their skill with the other nations of the world, and especially whenever the vodka drinkers were against them. This is a sad state of affairs. Regardless of whether entered in I.S.U. or Olympic Pistol and Rifle Matches, or International Shotgun Events, the story was usually the same. During the Korean conflict, it is estimated that we fired over 53,000 rounds of ammunition for every Korean and Chinese opponent obliterated. What would the flintlock users of Chalmette (New Orleans) say about this?

Looking backward at mistakes is

N.R.A. INSTRUCTORS Jim Trent and Norval Cornell, of the Scranton Rifle Club, putting a class of juniors through the prone position firing at the 109th Infantry Armory.





EARLY FAMILIARITY with firearms is encouraged at the Scranton YMCA N.R.A. Junior's Club. Instructor James Seamans is shown here with a group of 12-year-old enthusiasts.

quite depressing when said mistakes could have been lessened by some clear thinking. Let's glance at the last few years, and discuss the immediate future. During all of the lethargic thinking since the end of World War II, our shooters have been continuously warned by the National Rifle Association about the condition of our deteriorating national prestige. This group has been quite successful in warding off a lot of "crackpot" anti-firearm laws, both nationally and within our states. Most of these un-American laws are instigated by communistically inspired citizens who seek to deprive all shooters of their National Heritage. Be on guard for these characters at all times.

Hunter Safety Education

A few years ago the Pennsylvania Game Commission agreed on a co-operative program with the N.R.A. They offered to train our warden force at the regular N.R.A. Safety Hunting Course stressing correct handling of firearms and good marksmanship. This training has become a part of a giant plan by our Commission to develop thousands of civilian instructors who in turn will reach every nook and corner of the Commonwealth. It has been so successful that other states who, at one time were only lukewarm, are now copying the plan. As far as we know the autumn "sighting in day" was started by the Scranton N.R.A. Senior and Junior Rifle Club on the 109th Infantry Rifle Range in 1956. This was a program to give big game hunters an opportunity to sight in their bear and deer rifles just before the season opened and to furnish each participant with a chance to learn the fundamentals of Safe Hunting ethics in the field. This feature is now being used by most all of our leading shooting centers throughout the nation where suitable rifle ranges are available. The 109th Battle Group each year turns over their total facilities to make this event a big success.

Schools Now Involved

Along with the boost given by trained Game Commission personnel, the N.R.A. instructors, and military personnel from units like the 109th Infantry, many Pennsylvania colleges as well as numerous high schools are now vigorously adopting marksmanship as an essential part of their curriculum. Most all colleges are going into the marksmanship phase in a very thorough manner using the most modern and complete ranges as well as the finest target rifles made in the world.

Recently this writer has been covering several of the Intercollegiate matches. This is the only way to correctly appraise the current favorable trend in getting back to a nation of riflemen again. Yes, our goal of several million "deadeyed" devotees of the rifled tube can be trained where only a few thousand were available six to ten years ago. Possibly, the leading example of what can be accomplished in this training has developed within the impressive new expansion of the University of Scranton. Looking ahead, the management of this college had included a modern 50-foot indoor rifle range in one of their new buildings. This range is complete in every detail with room for at least ten riflemen to shoot at one time. The lighting is superb and now they are studying the best procedure to cut down annoying sound. The rifles used by the teams are all new late model target arms. One can see the shooters are not handicapped.

The Scranton University has on

had a rifle team for two years but they are already making the best "sit up and take notice." At present they have five member teams which are consistently shooting around 1,400 or above over the ten shot prone, kneeling and standing course. This means a 275 to 280 average per man. These are not easy scores to equal.

Indebted to NRA

Our nation owes a lot to the dedicated unending efforts of a small force of N.R.A. Clubs. Without their continuous hammering there would be no nucleus for the present trend of rapid marksmanship expansion. There would be no instructors capable of teaching unlimited numbers of new instructors. Expert marksmanship cannot be developed by viewing unorthodox, and in most cases, silly TV gun handlers. No one ever heard of anyone of these "heroes" winning even a regional match, not counting a state, national or international match. Careful, persistent and well-coached training is necessary to produce shooters who shoot 275, or better, out of 300 or the small-bore course mentioned.

The President Speaks

Last May, 1961, President John F. Kennedy, in a terse address, cited our need for a "Nation of Minute Men," patterned after the Boys of 1776, who stood ready to fight and sacrifice to keep their homes and nation free. The news story quoted the President as saying: "Today we need a nation of minute men, citizens who are prepared not only to take up arms, but citizens who regard the preservation of freedom as a basic purpose of their daily life and are willing to consciously work and sacrifice for that freedom. The cause of America cannot succeed with a lesser effort."

This statement reaffirms the persistent "theme song" of our N.R.A. and their over a half million members, that we need a well armed citizenry. It is impossible to imagine a nation of helpless unarmed minute men that could be "prepared-to-take-up-arms" and rally to their country's defense in any manner an emergency might require.

The rigid backbone of such a citizen army continues to be the host of hunters and shooters who own and understand guns, and who stoutly resist continuous efforts by "crackpot," shall we say, "conscientious objectors" to restrict private ownership of firearms and the right to use them in peaceful and recreational pursuits. We must avoid the near fatal mistake British citizens had forced upon them, and the terrible fatal mistakes that made other European nations "hors de combat" as soon as their enemies got ready to take over. Citizens who take no interest in firearms are as helpless as unarmed citizens, and, Bud, that is helpless when the "chips-are-down."

This is not intended to be an alarming report. We hope we never will be called upon to use our fine American-made firearms for anything but target shooting and hunting. One thing is sure, your favorite firearm can serve its owner for fun and security. The better you understand it the better it will serve you. A tremendous trend is swinging your way headed by a phantom "minute man" character out of the past carrying a flintlock rifle. Get in step with this American with your favorite firearm. Make America a LAND OF MARKSMEN again.

EXPERT RIFLEMEN are shown here with coach Sgt. Robert Neely at the University of Scranton Rifle Range. This team uses the latest and best in rifle equipment for their training.



Try Close-Up Photography

By Larry J. Kopp

Photos by the Author



"AH SHUT UP" might be what this fox has to say as the author catches him in an unusual facial expression.

IF YOU'RE looking for an additional incentive to trap foxes, why don't you incorporate photography like about nine out of ten other trappers are doing?

This, by the way, is not a figment of my imagination. In fact, it would probably be more difficult to imagine that there is any such thing as a trapper who does not own and use at least one camera on his trap line.

Sometimes I get the idea that if it were not for a camera, an increasing number of trappers might not even do any trapping at all!

The fact that it's comparatively easy to combine photography with trapping accounts for much of the enthusiasm reflected by this more or less modern-day trend in the trapping fraternity.

Obviously, as would be true with other rare accomplishments, the trapper feels almost obligated to record some evidence of his activities.

However, in order to really enjoy photography on the trap line I would suggest that you attempt to use your camera in a more creative fashion—not merely as a tool intended to catch standard facts.

For instance: If you have not already done so, why not buy yourself a close-up lens and try to capture on film some of the many small details which nearly everybody else overlooks?

Unexplored Idea

What I have in mind, particularly, is the relatively unexplored idea of getting extreme close-ups of various fur animals. And in this respect I have found that foxes probably portray a greater variety of facial expressions than most fur-bearing animals do.

In fact, I have just about come to the conclusion that foxes can be expected to reflect every conceivable human emotion or attitude except self-pity!

A trapped fox, despite any undesirable factors that may be connected with its predicament at the moment allows the opportunity to record an amazing variety of normal poses which will make a valuable contribution to your picture album.

In fact, it occurs to me that you might not really appreciate the true character of a fox if you look at one only in terms of dollars and cents. So try looking at foxes through your camera and surprise yourself.

Of course, as you may have guessed there is more to taking close-ups of animals than buying a lens that fits on your specific camera.

Among other things, close-up lenses have the tendency to exaggerate camera movement. Thus it is of paramount importance to use a tripod of some sort on which to steady your camera. A piece of board that is an inch or so longer than the width of your pack-basket can be placed on top of the basket to create a fairly firm tripod.

An inexpensive commercial tripod, of course, is best—especially one that has adjustable legs and a center post which can be elevated or lowered.

I might mention at this point that if the normal lens on your camera allows you to focus at three feet or less you might be able to obtain suitable close-ups without an extra lens by simply enlarging the desired portions of negatives.

But in any case, don't plan on using fast shutter speeds in the hope that you can overcome blurs caused by camera movement. Best results will be forthcoming if you use normal lens settings and shutter speeds, both of whieh are determined by light conditions.

And unless you are addicted to experimenting with your camera, I personally would not urge you to take too many pictures on cloudy days or when there is much haze. Getting good close-ups is difficult enough on days when the sun shines brightly.

In a sense, this business of camera settings does not demand nearly as much attention as does the subject in question.

Need Cooperative Subject

Indeed, considering that the personalities and moods vary from fox to fox, the whole thing really boils down to selecting a cooperative specimen.

This can be as interesting as discovering a girl that is just right to pose for glamour studies. For, like feminine models, some foxes are simply too stiff while others are entirely too relaxed!

In other words, it will pay you to select a fox that is neither ferocious nor half asleep. To the non-trapper who assumes that all foxes react in the same way, this may come as a surprise. The truth is that a limited number of the foxes that a trapper encounters are wild and raging-mad. A larger number of foxes are not only half-asleep but so unconcerned about their immediate circumstances that if you took too many pictures, most people would accuse you of having photographed a tamed fox!



"MY ANCESTORS CAME OVER ON THE MAYFLOWER" could be the remarks of this snooty looking fox caught in another interesting expression.

Perhaps the behavior of a fox depends, to some extent, on how you approach the animal. Needless to say, if you stand around waving a stick or keep moving around the fox in order to get a specific angle, you will merely confuse and bewilder your subject. Nor should you try to maneuver the fox in any manner whatever so as to include background matter. Besides, when you use a close-up lens the background will be out of focus anyway.



"BUT WHAT CAN I DO? THE FLOOD RUINED US" is a pathetic remark to fit the sad face of this fox. These close-up pictures show what a new slant on wildlife photography will produce.

Your best plan is to approach a fox slowly, quietly, with camera in hand. Get as close as possible, keeping in mind that you are dealing with a wild animal, and set up your camera just barely beyond the range of its confinement.

When you have your camera set up, leave it that way and don't move around. If you must engage in physical motion, do it very slowly, and all the while study the fox almost exclusively through the viewfinder on your camera.

You will find that the less you move and the less you look at the animal itself, the more it will become accustomed to you and your camera. What really happens if you do it right, is that the fox will sense your preoccupation with the camera and you should expect the animal to relax, even to the extent that it will ignore you. After you have your camera in readiness the rest is all a matter of just waiting patiently and allowing the fox to do exactly as it pleases.

Curiosity nearly always gets the best of a normal fox, and I've found that frequently curiosity leads to total lack of concern, sometimes to utter contentment; provided, of course, that facial expressions and general behavior are accurate indications.

Sometimes when you approach close-up photography as I have outlined, you may find that a fox can appear alert for a moment, reflect disgust moments later, and finally anger.

At any rate, if you will try hard enough, and assuming that the foxes in your area are like those in Mahantongo Valley, you should accumulate a variety of fox close-ups portraying everything from perfect contentment to sheer anger.

WOOD DUCK MASS PRODUCTION

On his first of three checks of the wood duck nesting boxes at Pymatuning, Game Protector Paul Miller reported one box containing 82 eggs.

Miller explains that many of the boxes are used by more than one hen during the nesting season. The box with 82 eggs was being used by four or five hens all at the same time.

The Game Protector also said that at least 25 of the boxes contained 50 or more eggs.

All but 20 eggs are removed from each box and hatched artificially. The remaining 20 eggs are hatched and reared in the wild state.

DEER STARVE IN MICHIGAN

The following item in the April issue of BOWHUNTING told that Michigan's deer starvation during last winter was destined to be the heaviest in years:

"It is pathetic to watch the slow death of a starving deer, nine times out of ten a fawn born the past spring or summer.

"The white tail will stagger and flounder in the snow; when you approach, it will be unable to stand or run. And finally, the deer won't make it through a cold night; you'll find it dead, curled up on the lee side of a tree or hummock.

"Post-thaw surveys tell the final story. All trails point to another great loss to rank with the 50,000 starved deer of the '50-51 winter, and the 36,000 in '55-56.

"The irony is that mass starvation is wholly senseless, a dramatic symptom of a long-standing public malady—wanting more deer than the deer range can support."

BOOK NOTES...

The Book of Trees

This excellent book, a guide to the identification of native trees by William C. Grimm, includes all of the trees found in eastern North America, north of subtropical and tropical Florida and east of the Mississippi River.

"As far as I am aware," the author writes, "this is the first time that a popular book on tree identification has completely covered both northern and southern trees. Such a book will enable one to travel from Canada southward and to northern Florida and identify every native tree he will encounter en route."

The line drawings, done by the author, are of good grade. Leaves, buds, twigs, blooms, fruit, and bark are portrayed to provide additional reference material. Two sets of keys to identification are provided in conjunction with the illustrations, one for characteristics of the trees in summer and the other for winter. 487 pages, illustrated with many sketches. The Stackpole Company. Price $10.

Letters . . .

Late Season Advocate

Dear Sirs:

I wish to report that I enjoyed one of the most pleasant weeks of hunting in the last ten years during the week of rabbit hunting after Christmas. During four days of that week, although I hunted on an average of three to four hours each day, I jumped over forty rabbits. This is more than the total number of rabbits which I jumped during the entire period of the regular season; in fact, I found more game during these four days than I thought existed from my experiences during the regular season. Because I hunt for pleasure and not for a heavy game bag, my friends and I took only eight rabbits during the four days and I am assured that there are more than enough breeding animals left to assure a good crop next year, if spring conditions are favorable. I wish to thank the Commission for their wisdom in providing for the extended season and to request that the Commission resist all pressure to discontinue it.

I know that the Commission has stated that it is its express purpose to do what is best for the hunters of all types and to provide the greatest amount of hunting recreation for the greatest number of individuals, within the limits of good game management, and I am for that, 100 per cent. This is why I am writing, so that the Commission may have one more favorable opinion with respect to the extension of the small game season. *I would rather have this one week after Christmas than the entire month of the regular season.* If the season ever has to be shortened, please take one week out of the regular season and not the week of the extended season.

Charles L. Bryner
Waynesburg, Pa.

Unusual Letter

From experiences over the years we have learned to expect unusual letters of inquiry, request or criticism. Earlier this year a most unusual letter and donation was directed to the Commission by Elbert Hubbard, III, M.D., of E. Aurora, N. Y. Excerpts from Dr. Hubbard's letter follow:

"A very good friend of mine who was a lifelong resident of Pennsylvania died suddenly while vacationing in Florida. During the last ten years, my wife and I had enjoyed many happy hours with my good friend and his wife. A large part of this time was spent hunting and fishing. He taught me a great deal about the outdoors and its contents. In my opinion he was a true conservationist and lived for everything the word implies.

"I have enclosed a check as a donation in memory of my friend. I am sure he would feel that this is more appropriate than a few flowers. Perhaps the money can be used for purchase of corn for feeding turkeys."

* * *

In acknowledging Dr. Hubbard's contribution, we recognized that his tribute to a sportsman friend who was intensely interested in the outdoors and conservation was indeed appropriate.

Can't Understand

Dear Sir:

I receive the Pennsylvania GAME NEWS monthly. I circulate it among my sportsman friends (Canadians).

They cannot comprehend the criticism of the Game Commission in the Deer Management program.

They note a harvest of 60 to 100 thousand deer and yet no appreciation

My hat's off to the Pennsylvania Game Commission. Tell the Pennsylvania sportsmen to appreciate the good hunting they have.

/s/W. A. Geisler
Sault Ste. Marie
Ontario, Canada

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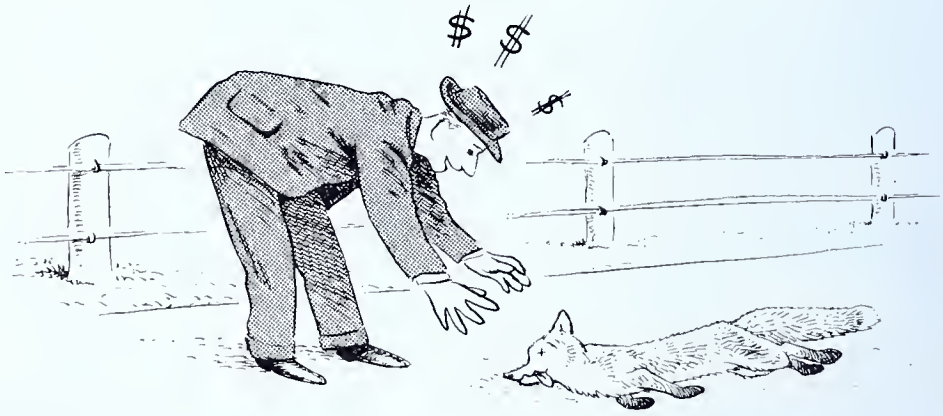
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IT'S THE LAW

NOT ALL GAME LAW VIOLATIONS ARE INTENTIONAL. AS A SERVICE TO COMMONWEALTH SPORTSMEN, GAME NEWS, IN COOPERATION WITH THE DIVISION OF LAW ENFORCEMENT, TAKES THIS MEANS TO BRIEFLY CLARIFY SOME OF THE MOST FREQUENTLY MISUNDERSTOOD OR LEAST KNOWN GAME LAWS.



QUESTION:

LAST SUMMER I FOUND A RED FOX THAT HAD BEEN KILLED BY AN AUTOMOBILE. COULD I HAVE COLLECTED BOUNTY ON IT?

ANSWER:

NO. IN ORDER TO COLLECT BOUNTY YOU OR A MEMBER OF YOUR IMMEDIATE FAMILY MUST ACTUALLY KILL THE BIRD OR ANIMAL.

QUESTION:

I'VE LOCATED A NEST CONTAINING TWO YOUNG GREAT HORNED OWLS. WOULD IT BE LEGAL FOR ME TO SELL THEM INSTEAD OF PROBATING THEM FOR BOUNTY?

ANSWER:

YES, BUT THE BUYER COULD NOT COLLECT BOUNTY ON THEM. (BE SURE THEY ARE GREAT HORNED OWLS AND NOT A PROTECTED SPECIES.)



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Pennsylvania GAME NEWS

AUGUST, 1962

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COVER: Summer mowing brings a renewed interest in t art of woodchuck hunting. Since World War II, the tec nique of hunting woodchuck has changed somewhat. T popularity of gun scopes and long-range ammunition h made the woodchuck an ideal long-range target. Howeve with the increased range comes the increased danger of hunting accident. Chuck hunters should wear a bright color cap and other contrasting clothing in order to help ke hunting a safe sport.

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Editorial . . .

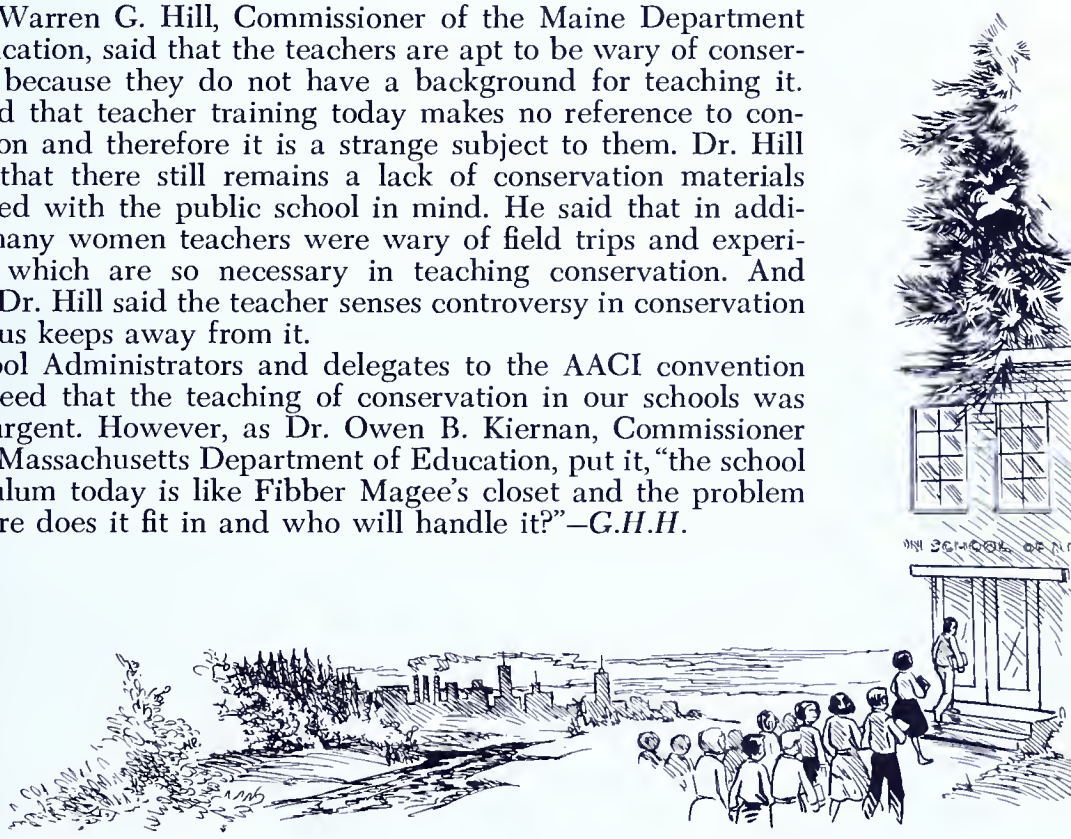
Lack of Conservation Education in Our Schools

Why isn't there more conservation education in our schools? This was a major question under consideration at the recent conference of the American Association for Conservation Information in Provincetown, Mass. Three leading educators discussed the problem.

Dr. Finis E. Engleman, Executive Secretary for the American Association of School Administrators, said that there are three main reasons why there isn't more conservation education in the schools: First, conservation does not have priority in the minds of the people of the United States. He said that proof of this was the lack of conservation questions on college entrance exams and the entrance exams are the big targets for high school curriculums. Secondly, the public does not know what conservation is nor are they aware of the critical situation we are getting into in the United States. Thirdly, Dr. Engleman said that our teachers are not trained to teach conservation. He said that those who are trained do not want to teach it because they do not want to reveal the tragedy of our industrial expansion and the misuse of our resources.

Dr. Warren G. Hill, Commissioner of the Maine Department of Education, said that the teachers are apt to be wary of conservation because they do not have a background for teaching it. He said that teacher training today makes no reference to conservation and therefore it is a strange subject to them. Dr. Hill noted that there still remains a lack of conservation materials prepared with the public school in mind. He said that in addition, many women teachers were wary of field trips and experiments which are so necessary in teaching conservation. And lastly, Dr. Hill said the teacher senses controversy in conservation and thus keeps away from it.

School Administrators and delegates to the AACI convention all agreed that the teaching of conservation in our schools was most urgent. However, as Dr. Owen B. Kiernan, Commissioner of the Massachusetts Department of Education, put it, "the school curriculum today is like Fibber Magee's closet and the problem is where does it fit in and who will handle it?"—*G.H.H.*



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Photo by Keith Schuyler

Count the number of bullet-riddled road signs you see . . . you will be shocked.

National Disgrace

By Bill Walsh

NEXT TIME you're out in the car for a drive, count the number of highway signs with bullet holes in them. You'll be shocked. And you'll find this peculiar type of vandalism most anywhere—on back roads, main highways, and even on the turnpikes and freeways.

You will also, no doubt, arrive at some of the same conclusions we have made since first noticing and investigating the extent of this thoughtless practice. Most significant is that such gunning tomfoolery is courting further curbs on shooting activities at a time when opponents of unrestricted firearms use are searching out every excuse to make owning and using firearms more difficult.

The practice is, of course, frowned upon by responsible shooting organizations. It's not only mighty expensive but downright dangerous. The erection and maintenance of highway signs as important aids to safe driving costs a lot of money. Generally, highway departments have enough to do in the few short months of good working conditions without irresponsible shooters giving them more work replacing bullet-riddled signs.

We first noticed highway signs with bullet holes in them in our travels to all sections of Pennsylvania. We wondered whether other states had the same problem. In two cross-country auto trips in the past three years we paid particular attention to this portion of the roadside scenery and discovered that the practice is nationwide and that some states' shooters are apparently even more thoughtless than our own.

To give only a few examples, in Wyoming, one stretch of highway revealed 14 out of 20 signs with bullet holes in them. In South Dakota, a similar stretch had 17 out of 21—and the undamaged ones were comparatively small arrow-type signs indicating they'd be harder to hit than the others. Some signs had only one bullet hole in them. Others were riddled with a dozen or more. Because this type of vandalism opens up the sign to rust and deterioration, it calls for eventual replacement and repair. We began to wonder how many states kept a record of the number of signs it must replace each year due to bullet damage and just how much money this activity calls for. We wrote letters of inquiry to the various states and here are some of the more interesting figures.

Kansas replaces 17,093 such signs at a cost of $382,138. Pennsylvania replaces 10,000 signs at a cost of about $100,000. Mississippi puts up 20,000 new ones with a price tag of $100,000. Arizona's 10,000 new ones cost $30,000. Colorado's replacement of bullet-damaged signs costs $55,000 for 7,000 new signs. Idaho must spend $86,000 for 7,500 new ones. And so it goes—with the "known and reported" total reaching a replacement cost of $884,738.

Now this is not the complete pic-

ture, of course. Many states reported they had no record of this type of expenditure. This is understandable where repair work is done at the local level and where "sign replacement" as such is lumped into one budgetary item regardless of reason for replacement. Over 20 states out of the 45 that returned our questionnaire reported in this fashion—"no record" or "unknown." Nevada, for example, was one of these. Yet our cross-country trip record showed one stretch of 20 signs (we took 'em in lots of 20 to make comparisons average out) with 16 damaged by bullets.

Using the "known" figures to hazard a "guesstimate" of the national total, we'd have to come up with a loss figure of about 1½ million dollars a year, or more, at least. Which means that at odd and various times a lot of loose lead is penetrating the atmosphere in reckless fashion.

Who shoots up these signs? When does it happen? Why is it that the act is rarely observed—but suddenly, one day, the holes are there?

The answer — compiled and condensed from various state highway departments and game officials—is admittedly little more than conjecture. For the one thing universal about the practice is that it is generally unobserved. There are several theories.

One is that "kids with 22's" — out without adult guidance, find the signs attractive targets that do not require the work or expense of putting up or taking down and on which the record of their marksmanship becomes fairly permanent as proof they could hit it.

Another is that the careless adult hunter, perhaps disgusted at the end of a day in which he has seen no game, emerges onto the highway and "releases" some of his discontent by taking a crack at the nearest target.

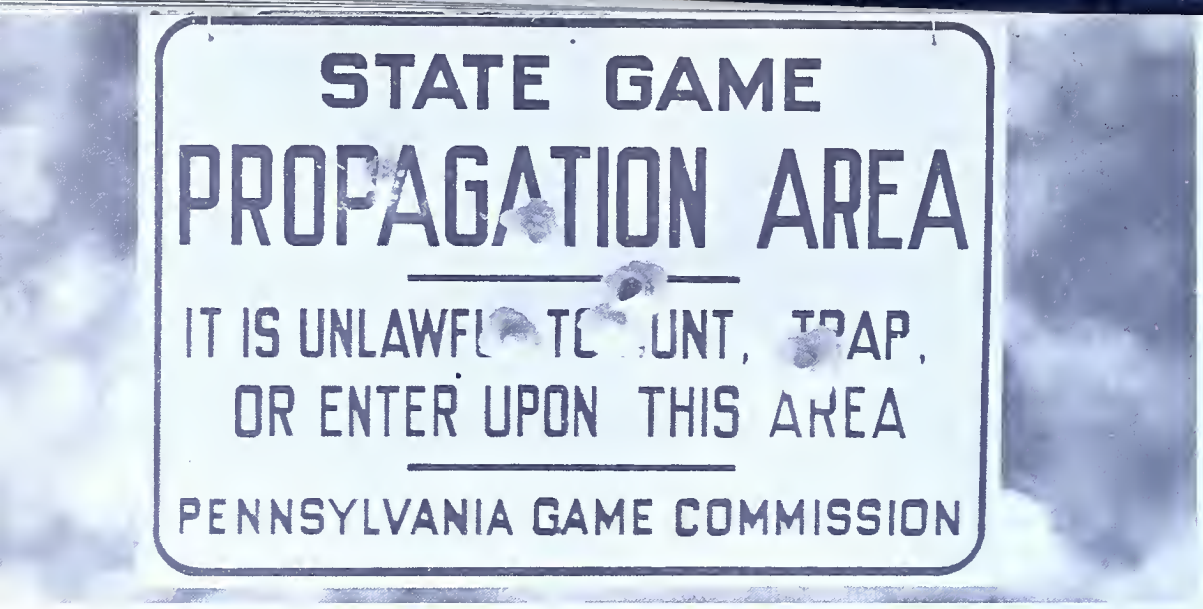
Another is that the same hunter may have missed a shot at game and is eager to "check" his rifle sights—again on the nearest target on which the bullet hole will be clearly visible. Or he may "try out" the gun on a highway sign before entering the woods, to make sure it's hitting where he aims it.

Another is that night-time hot-rodding mechanized "cowboys" of the flaming youth variety are getting their

EVEN STATE GAME LANDS SIGNS fall prey to these "hot-rod road gunners" who derive some pleasure from destroying signs. The reasons they do it may be quite complicated, but one thing is sure, these persons are neither good sportsmen nor good citizens.

PGC Photos by D. L. Batcheler



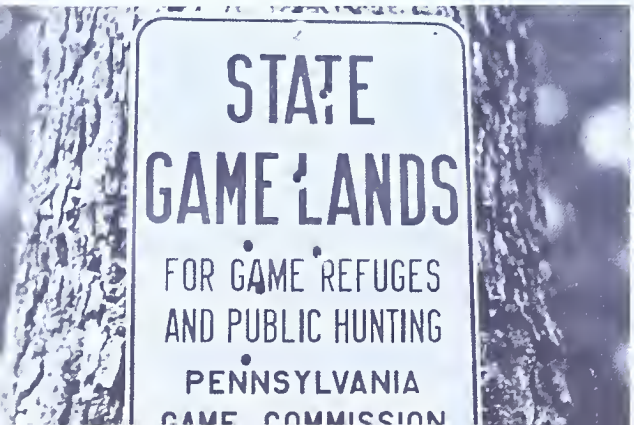


PGC Photos by D. L. Batcheler

GAME HOGS do not approve of propagation areas and perhaps these same persons show their disapproval by shooting up the propagation area signs. Regardless of the reasons for destroying the Game Commission signs, hunting license fees will have to be spent on replacement rather than for more worthwhile projects.



ONE THEORY why a hunter will shoot holes in signs is that he needs a release for his pent-up energy after spending a fruitless day afield. Or maybe the same hunter did see some game but missed and uses the sign to test his sights.



kicks out of shooting up highway signs with pistol or revolver—leaning out of the right window in the manner of a TV private eye chasing the villain down the road and potting at the signs as they are picked up by the headlights of the speeding car.

Whatever the details, however, the evidence of the monkey business stands mutely but graphically at the edge of almost every highway for all to see.

When we first learned of the magnitude of the cross-country impact of this irresponsible and foolish practice, our first impulse was to hide it—like the dirty linen that shouldn't be washed in public, or the dirt that is swept under the corner of the rug. On second thought we realized that only by indoctrinating the shooting public and the responsible shooting organizations with the full facts and the supporting information, can a beginning be made in correcting the situation.

For the thing that disturbs us most about the problem is the fact that it has apparently been going on under our noses for quite some time with a minimum—in fact almost no—public attention.

There are all kinds of campaigns aimed at reducing forest fires, at keep-

ing highways and countryside clean and unlittered, at children playing with matches, and on into the night. Yet nothing much is heard about curbing something equally as dangerous, if not more so, such as shooting along, down, and across the nation's highways with all types of firearms.

As in safe driving, safe boating, or safe hunting, the answer to intelligent enjoyment lies with the fellow behind the wheel—or the gun. It is up to him —wherever it has been his finger that triggered the bullet in the direction of the highway sign—to practice discretion and restraint. Meantime, gun clubs, sportsmen's groups and other interested organizations and individuals may wish to bring the subject to the attention of the public.

It is nothing that can be kept secret for long anyway. For surely others are beginning to notice and deplore this national disgrace.

A perusal of the figures in the accompanying table, which shows how much certain of the states spend in replacing shot-up signs, indicates that a fellow could join a gun club for at least a year or two on what it costs his state government to patch up his handiwork. The sign shooter-upper should also remember that there are laws—with fines provided for—in most every state against destroying public property as well as careless handling of firearms.

So there it is—a messy indictment of a certain element of the shooting fraternity; an element that creates headaches for and works hardship on the thoughtful, the decent, and the law-abiding shooter. You are welcome to take it from there!

TABLE BY STATES, SHOWING KNOWN SIGN DAMAGE AND REPLACEMENT COST

State	*Signs Replaced*	*Cost*
Alabama	1,000	unknown
Arizona	10,000	$30,000
Arkansas	300	3,000
Colorado	7,000	55,000
Idaho	7,500	86,000
Illinois	no record	9,000*
Kansas	17,093	382,138
Maryland	50	250
Massachusetts	250*	8,000*
Michigan	400	4,800
Mississippi	20,000	100,000
Montana	1,000	9,800
New Hampshire	1,100	10,000
New Jersey	"few"	"small"
New Mexico	1,500	15,000
North Dakota	"few"	250
Ohio	15,000**	75,000**
Oregon	"few"	"small"
Pennsylvania	10,000	100,000
South Dakota	550	unknown
Tennessee	300	3,000
Wisconsin	unknown	13,750*

*Estimate.

**All Vandalism.

Twenty-two states reported "no record" or "unknown" in both columns.

Total signs replaced by states reporting—93,043.

Total value by states reporting—$905,008.



WALKIN' SHOES

By NED SMITH

August's Streamside Flower Show

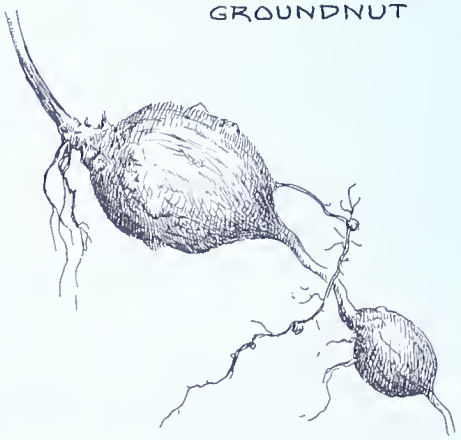
1. Why was the groundnut important to the Pilgrims?
2. The swamp milkweed is a stout, unbranched plant. True or false?
3. How many petals does the arrowhead flower have?
4. Where does the turtlehead get its name?
5. What color is the flower of the common loosestrife?
6. Is the yellow fringed orchis named for the ragged margins of its leaves?
7. To what does the name of the arrowhead refer?
8. The monkey flower requires rich, deep, alluvial soil. True or false?

Answers on Page 45

THINK YOU'VE seen all of August's flower extravaganza? Maybe you have. You've surely noticed the fields aglow with goldenrod or whitened with patches of boneset or Queen Anne's lace. And who could miss the head-high shafts of purple flowered ironweed, or the Joe-pye weed's pink blooms fuzzing the tops of lofty eight-foot stalks, to say nothing of the matchless jewelweed or the cosmopolitan New England aster.

But if you've never hiked along a Pennsylvania trout stream in late summer, or poked around the river islands there's a lot in the wild flower line that you've missed. Many of the strikingly beautiful flowers you'll see along our watercourses are not found elsewhere—and surely not in the familiar upland fields and woodlands. Addicted though I am to fishing, it's not hard for me to put the rod away and go off on a hike along some streamside flower garden in August, and I'm sure you'd enjoy it, too.

In the first place, many of the flowers you find will be big and showy, with intense colors that contrast markedly with the pale hues of many springtime blooms. The cardinal flower, whose red is unbelievably vivid, is a good example. So is the strikingly beautiful purple loosestrife.



EDIBLE TUBERS OF THE GROUNDNUT

Then there are the more uncommon species like the yellow fringed orchis, whose appearance is always a surprise. You will see plants that grow in the water itself—the lizard's tail, the water willow, and the water persicaria. Others grow in the rich soil of the islands — the brilliant yellow sneeze-weed, the groundnut, swamp milkweed and the common loosestrife. You will find northern species that have spread southward along the streams by means of water-carried seeds and wash-out plants, and you'll see European flowers that escaped centuries ago from upstream gardens of our early settlers.

To entice you to sample this streamside array here are ten species that can be found in and along Pennsylvania creeks and rivers in August. By the time you've found the tenth one I'm sure you will have discovered a dozen more that are not mentioned here, and I'm equally sure you'll soon make stream bank botanizing a regular part of your outdoor curriculum.

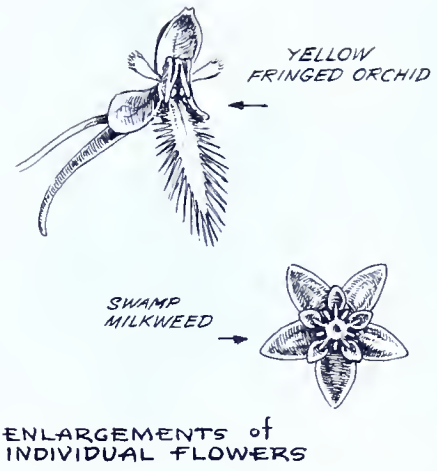
Arrowhead

In the shallow, muddy backwaters of many streams you'll see the common, but attractive arrowhead, so named in allusion to the shape of its leaves.

The flower, arranged in whorls of three's, has three rounded white petals and yellow centers. As a rule these male blossoms are uppermost on the stem, while the less attractive and less conspicuous female flowers are borne on the lower whorl.

Cardinal Flower

An erect spike of dazzling scarlet flowers blooming on the bank of a northern trout stream is almost sure to be the cardinal flower—one of our most striking native species. It attains a height of two to three feet, with pointed leaves that are frequently washed with red or bronze. The tubular blossoms are divided into two lips, the lower one three-lobed, the upper one two-lobed.



A similar plant, the handsome great lobelia, differs in having bright blue flowers. Like its relative, the cardinal flower, it blooms in late summer along streams and in moist situations.

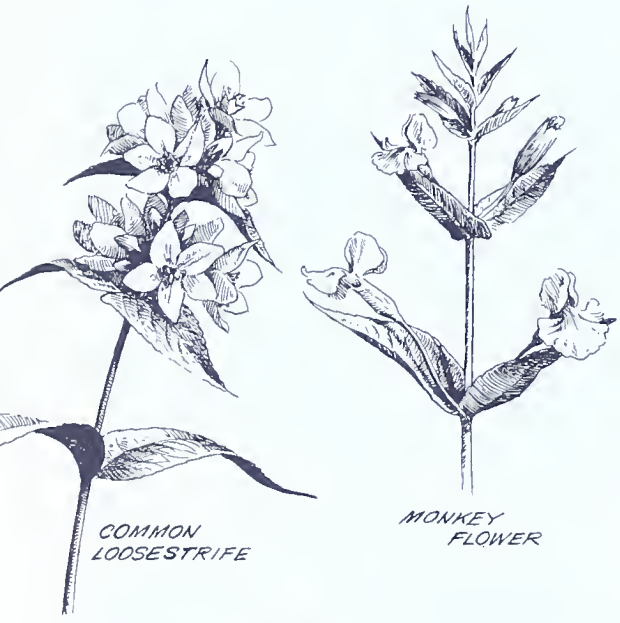
Monkey Flower

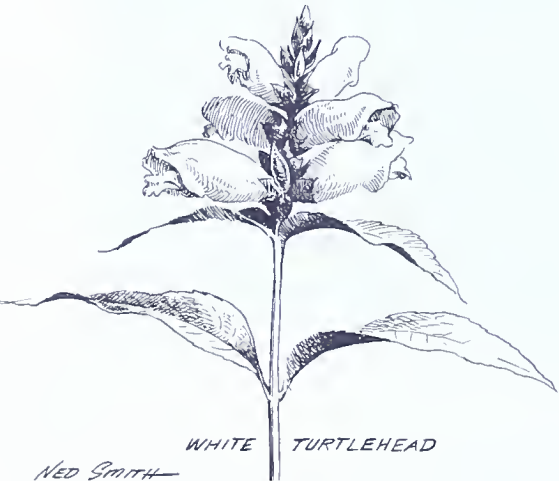
Why anyone would give this delicate flower such a ridiculous name is beyond my ken, but that's what it is called. It grows along streams, often on the most inhospitable looking rock ledges and gravel bars, wherever its roots can find a bit of soil. Its flowers are usually paired, and are lavender or violet with two yellow spots on the lower lip. The corolla is divided into two lips, the upper one two-lobed, the lower one consisting of three broad lobes. The opposite leaves clasp the stem with stalkless bases.

Common Loosestrife

The word "common" in this plant's name is misleading, for in Pennsylvania, at least, it is not well known. Its other name, golden loosestrife, is more accurate. Apparently it finds the rich soil of our river islands to its liking, for in such places, in company with blue vervain, swamp milkweed, and the like, it attains a healthy height of three to five feet. It is an attractive and easily recognized plant, with paired or whorled leaves and a terminal cluster of deep, golden yel-







low flowers. The latter have five petals and measure about an inch across.

White Turtlehead

You'll find this plant growing on stream banks where its stems often extend stiffly out over the flowing water. It reaches a height of three feet and is tipped with a spike of flowers that roughly resemble turtles' heads. They are white, tinged with pink or purple at the tip. The throat of the lower lip is hairy. The narrow, pointed leaves are opposite, and serrated. The turtlehead is one of the last flowers to bloom—I have found its wan blossoms when the creeks were sprinkled with fallen yellow leaves.

Purple Loosestrife

Wherever this plant is found it is breathtaking. Two or three spikes rising above the greenery of a river island are as striking as a thousand massed in a quiet marsh. It's the startling color that does it—an indescribable shade of glowing purple-pink. The flowers have five or six petals and are clustered in long spikes near the top of the stem. The leaves are usually paired, but sometimes occur in whorls of three. The plant itself frequently attains a height of four feet or more, although the average is about three.

Yellow Fringed Orchis

I prefer to find the yellow fringed orchis glowing warmly in the cool green shadows of a hemlock-shaded trout stream, but the truth is, it can pop up anywhere. There's a roadside ditch in Dauphin County that is yellow with its blooms in season, and only last summer I spied two flowering plants rooted in a spring near the top of a lofty mountain. It is a strikingly beautiful plant, a foot or two in height with alternate, somewhat clasping leaves, and a crown of intense orange-yellow flowers. The latter are peculiarly formed, with a slender, tubular base, an inch-long spur, and

a conspicuously fringed lower lip. It is sometimes referred to as the orange fringed orchis.

Swamp Milkweed

We are blessed with many milkweeds that vary in color from the butterfly weed's brilliant orange to the purple milkweed's deep rose-purple blooms. The swamp milkweed is a pleasing in-between. It is a slender, branching plant with lance-shaped, opposite leaves. The tiny flowers are rose-colored with white centers and white-tipped hoods, giving the compact clusters a pleasing two-toned effect. To fully appreciate milkweed flowers of any species they should be examined with a hand lens. Try it. You'll be amazed at their beautiful design and exquisite perfection.

Swamp Smartweed

The swamp smartweed is living proof that some of our most beautiful flowers are neither large, showy, nor rare. You'll find it a common plant of river and creek borders, its erect or reclining stems often sprawling to the water's edge. The individual flowers are extremely small, rich pink with deeper rose-pink centers, but the effect of the closely packed spikes of flowers and buds is most pleasing. Several related smartweeds, or knotweeds are similar, but few approach the smartweed's matchless hue.

Groundnut

Our Pilgrim forefathers knew the groundnut well, for its edible underground tubers provided them with food during those first harsh winters on New England's shore. You'll find its vines entwining streamside plants in many parts of Pennsylvania. The compound leaves are composed of from three to seven pointed leaflets. The flowers are pea-like, brownish-maroon in color, and arranged in rounded clusters. Just under the surface of the ground lie the strings of egg-shaped tubers that give the plant its common name.













PGC Photo

FAR-SIGHTED pioneer sportsmen like John M. Phillips deserve much credit for their interest in the early acquisition of State Game Lands. Here, on Game Lands No. 25 in Elk County, is a standing monument to Mr. Phillips for his untiring efforts to develop a state-wide system of public hunting grounds and game refuges.

CAPITAL EXPENDITURES

for

STATE GAME LANDS

By John B. Sedam
Chief, Division of Minerals
Photos by the Author

MUCH CREDIT should be given those far-sighted pioneer sportsmen and the early employes of the Pennsylvania Game Commission for the purchase of State Game Lands, a program which was enacted into law by the Pennsylvania Legislature in 1919

During 1920, the first tract of land, located in Elk County, was conveyed to the Commission. In 1927 the Legislature earmarked 75c from each hunter's license for financing land purchase and the wildlife management program on State Game Lands and leased areas. This stimulated land acquisition activities, and by 1949 the total Commission holdings exceeded 876,203 acres. During that year, the Legislature eliminated the 75c earmarked fund and designated that $1.25 from each resident license would be used for development of food and cover for wildlife; the purchase, trapping and distribution of game, and the protection on cooperative farm game projects. From that time until 1955 these last mentioned functions, along

with other necessary administrative costs obligated practically all the money budgeted from the game fund, and very little land could be purchased.

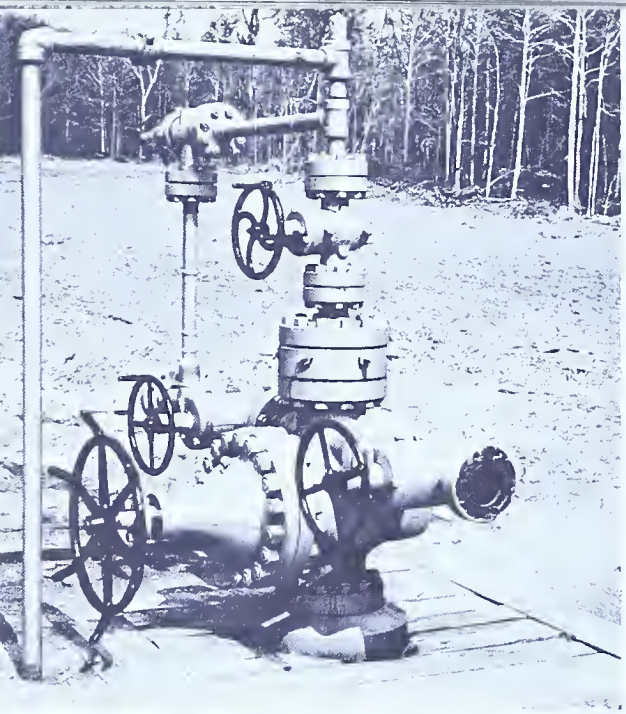
This situation changed with the discovery of natural gas in the Benezette area of northcentral Pennsylvania. Oil and gas rights in portions of State Game Lands No. 34, Elk County, were leased in 1953-54 with the result that the Commission received land rental and royalty payments as the leases were developed. Recognizing that this money should be utilized for capital expenditures, the Commission very wisely adopted a policy whereby funds derived from these leasing activities were designated solely for acquisition of State Game Lands and the purchase or construction of field division headquarters buildings.

Since these funds became available in 1955, land purchase has been a very active part of the Commission's expanded program. Thousands of acres were added to the older established game lands. Important and necessary road rights-of-way and various tracts controlling access to these holdings were purchased. In addition, many new game lands were conveyed to the Commission, most of them located in or adjoining marginal farm acreage in small game territory. At the end of the last fiscal year, a total of 949,615 acres had been acquired, and thousands of additional acres were under contract for purchase.

Many sportsmen have hunted on State Game Lands, or are aware of such acreage having been purchased. Recent acquisitions include a large block of woodland totaling about 8,000 acres located in Centre County; a new State Game Lands of approximately 4,000 acres north of Fort Loudon in Franklin County; a farm and orchard area of 700 acres which will form the nucleus for another management area in northern York County; several hundred acres locally known as "The Glades," an excellent wildlife area in Butler County, and somewhat less than 2,000 acres of land recently developed for wild waterfowl in

MARSH AREAS in Crawford County provide ideal food and cover for wild waterfowl and small game species.





A NATURAL GAS WELL on tract No. 26A in Blair County will help provide income with which additional public hunting areas may be purchased throughout the Commonwealth. Cumberland County Game Lands (below) are intensively managed for both large and small game species.



Crawford County. Although the above refers to the larger areas purchased, the program also included small game territory in Washington, Greene, Armstrong, Fayette, and other counties near Pittsburgh; Bucks, Lehigh, Schuylkill, and Lebanon Counties in southeastern Pennsylvania, and other tracts near heavily populated areas.

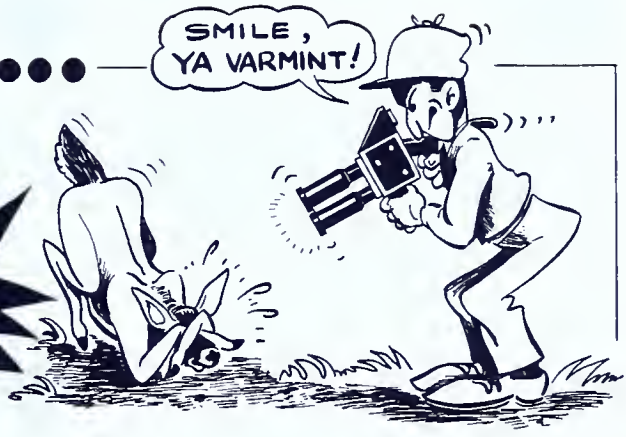
Although leasing and developing of oil and gas rights in State Game Lands continues, the funds received from this source have been fully obligated. In fact, during the past two years it was necessary to use considerable money above the amount originally budgeted for this purpose to continue the acquisition program. In order to provide a larger budget for land acquisition, every effort is being made to increase the leasing and developing of oil and gas rights in State Game Land acreage. While it is hoped that the income from this source may gradually increase, it apparently will not provide the total funds necessary to purchase all the desirable land that is being offered to the Commission.

Many interested hunters and members of sportsmen groups have inquired about the continuation of land acquisition. They recognize the increasing need for more open hunting ground and the funds required to continue land purchase activities. Will this worthwhile program be curtailed or will funds be provided? The future of public hunting grounds depends upon the interest and backing of those citizens who will benefit most from the purchase of additional State Game Lands—the Sportsmen.

Susquehanna County Game Lands Enlarged

The Game Commission recently made final settlement for 286.7 acres in Susquehanna County. This property was bought for $10,321.20. It increased the size of State Game Lands No. 236 to 1,061.5 acres. State Game Lands in Pennsylvania now total 968,414 acres.

Ready... aim... CLICK!



Written and Illustrated by John F. Clark

HUNTING with a shotgun or rifle does have its thrilling moments. But, if you've never tried it with a camera, you're missing out on one of the most interesting and exciting hobbies that has ever come down the "pike."

Whether you work with a simple box camera or one of the most expensive still or movie cameras, you'll find that your knowledge of the outdoors and the wildlife therein will be increased manyfold.

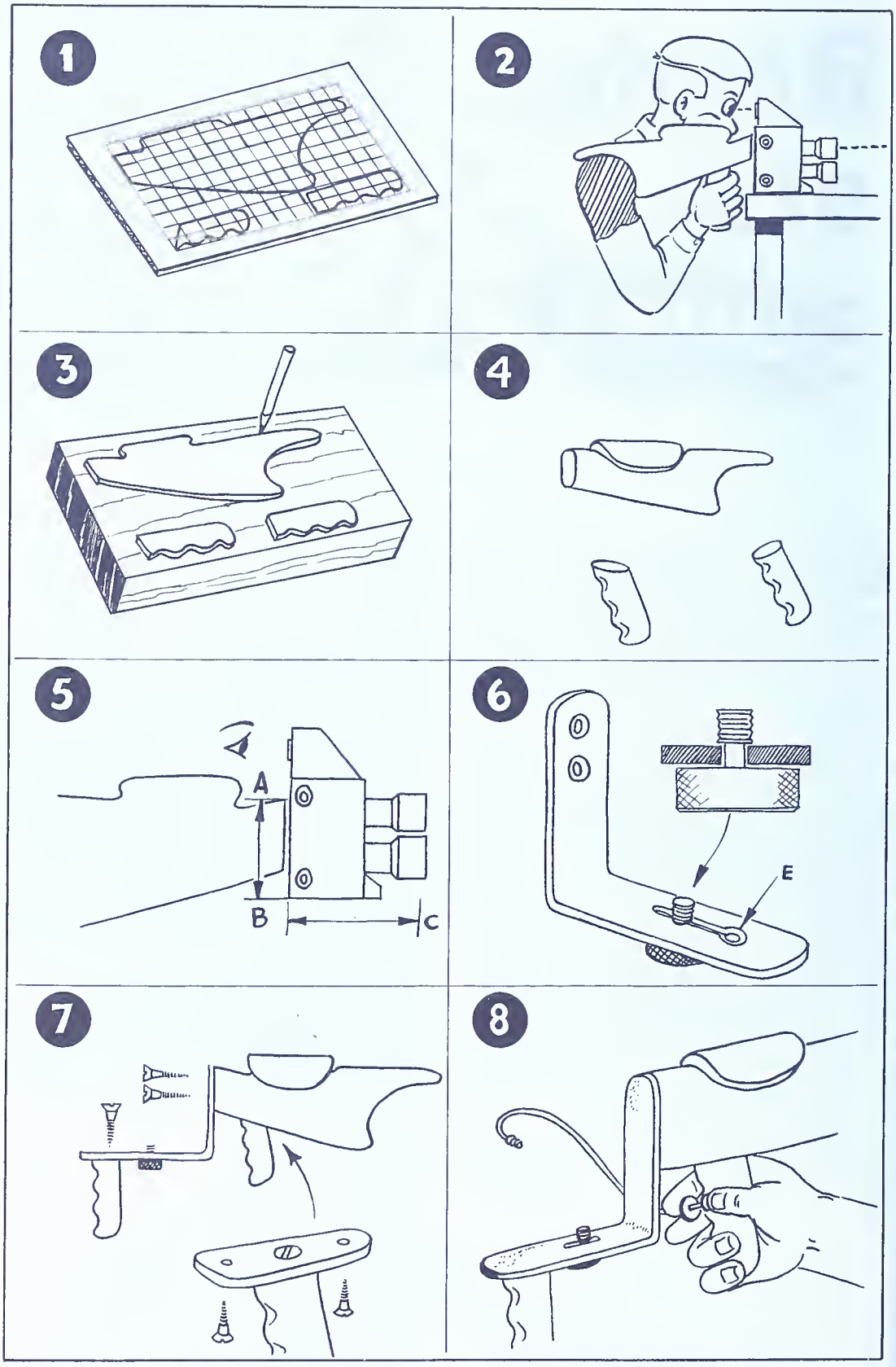
Game that is killed with a rifle or shotgun is soon gone and forgotten. But wildlife that is "shot" with a camera is preserved and enjoyed for many years. Don't get the idea, though, that I'm trying to discourage the sport of hunting. Far from it. I firmly believe that wild game is a "crop" and should be harvested yearly to maintain a balance in nature. As a matter of fact I thoroughly enjoy busting my share of caps during the regular hunting season.

"Camera hunting" does have some advantages, such as no seasons nor license fees.

Of course there are many gadgets and gimmicks on the market that make wildlife photography fairly easy. Like remote control shutter releases, trigger mechanisms that the animal sets off, and long telescopic lenses that can detect a tic in a gnat's eye at 500 yards. All of these things work very fine if your only interest is in photographs. But if you also want to gain a better understanding and increase your knowledge of wildlife and their habits you'll do it best by tracking, trailing, stalking, "ambushing" and outthinking the animals. Practically anyone can snap on a telescopic lens and take a picture of an animal a half mile away. But it takes a real outdoorsman to catch a picture right in the "critter's" own back yard.

The gadget that you see on these pages is just another means of making outdoor photography easier. Gun stocks for cameras are not new, they've been in use for years. Several years ago I purchased a good twin-lens reflex camera. Since then I've been promising myself that I'd build a stock for it. Just recently I got out the carving tools and did just that, with the result shown here. By the way, this idea works only with cameras that have eye-level view finders.

The gun stock camera works on the same principle as a fine custom built


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shotgun or rifle. That is, when you bring it up to your shoulder, the sights, or in this case, the view finder, lines up instantly with the target. And if you have preset the lens opening, shutter speed and focused properly you're all set to snap the shutter. In the case of a movie camera, you have excellent "follow-through" on action shots.

Naturally, I can't give you exact dimensions to build it, because no two people are alike. Some have long arms, short arms, skinny arms, short necks, long necks, etc. So you'll have to do what I did; build it to fit yourself. What I can do is give you the step by step procedure that I followed in building mine. I believe if you follow the steps closely, you should have no trouble.

Step No. 1—Transfer the patterns, full size, to a sheet of heavy corrugated cardboard. The patterns are somewhat oversize so you will have plenty of material for trimming. Cut out the patterns with a sharp knife.

Step No. 2—Attach the rear grip to the stock with a piece of tape. You might have to move it around a bit to get the best position. Set your camera on the edge of a table or desk. Then place the cardboard stock to your shoulder and place the front of the stock against the back of the camera. Move the stock around until your eye lines up exactly with the view finder. Then, with a sharp knife, start trimming away the excess cardboard. Shape the butt to fit the curve of your shoulder. You might have to cut down the cheekpiece or trim some off the front of the stock. At any rate keep trimming, taking a little at a time, until the stock fits comfortably and your eye lines up with the view finder.

Step No. 3—Lay out your pattern on the piece of wood you are going to use and trace around it with a pencil. I used a piece of 2″ thick walnut salvaged from an old bed. Cut the parts out on a band saw or use a coping saw.

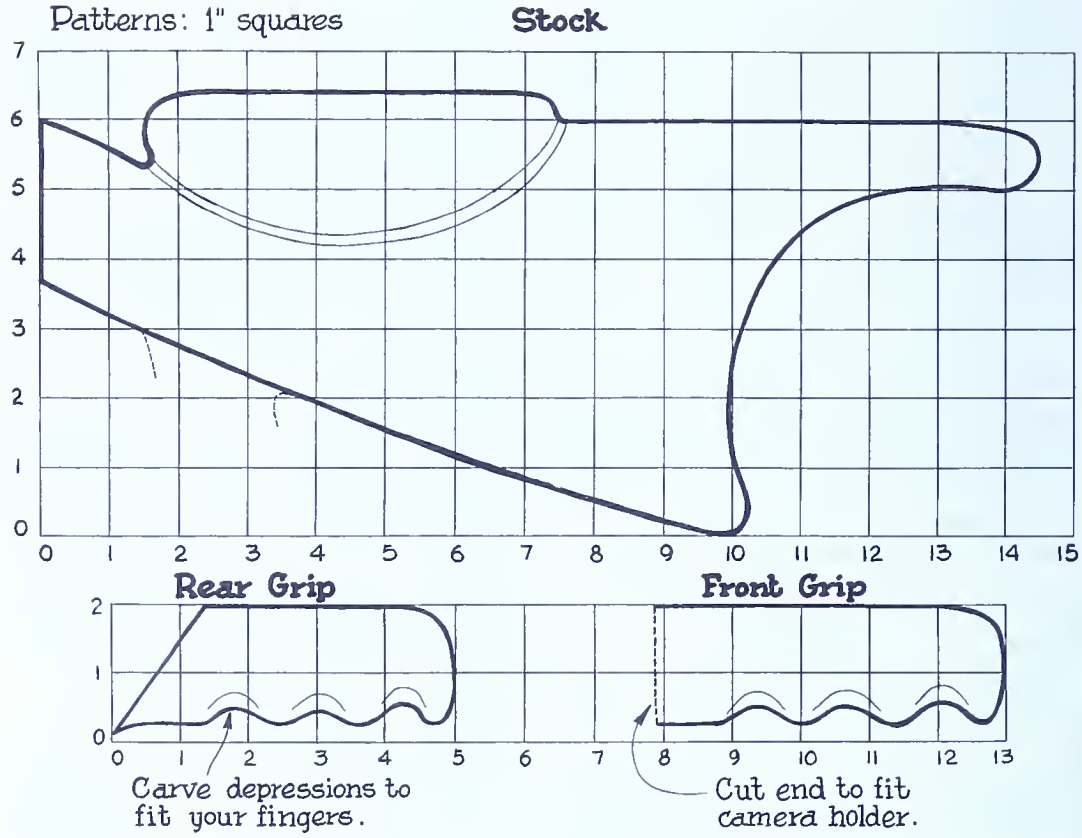
Step No. 4 — Using wood rasps, carving tools, planes and sandpaper shape the stock and grips. For "roughing-out" I used the rasp and block plane. Don't completely finish the stock yet. Wait until the other steps have been completed.

Step No. 5—Here we're measuring for the metal mounting bracket. For the bracket, I used a piece of strap iron ⅛″ thick and 1¼″ wide. The length will depend upon the camera you are using. Place the stock against the back of the camera as you did with the cardboard pattern in step No. 2. Then have someone measure carefully the distance from "A" to "B." The bend is made at "B." The distance "B" to "C" can be any length you want to make it, just so there's enough space for the camera mounting screw and the front grip.

Step No. 6—This shows the completed mounting bracket with the camera mounting screw in place. Drill and countersink for the wood screws that hold the bracket to the stock and the front grip to the bracket. Also cut a slot for the camera mounting screw. The cross section shows what the screw looks like when it's in place. You can get a mounting screw at your camera store or have a machinist make you one. Hole "E" is used to insert the mounting screw and also to attach the front grip.

Step No. 7—Attach the bracket to the stock and the front grip to the bracket. I used 2½″ No. 9 flat head wood screws. To attach the rear grip I used a metal plate ⅛″ thick, ⅞″ wide and 3½″ long. The plate is fastened to the grip with a 3″ No. 9 wood screw and the plate is then attached to the stock with 2″ No. 9 screws. If you want to do a neater job, inlet the plate in the stock. Now that everything is in place, attach the camera for a "dry run." If you've measured and carved carefully the stock should fit just like a glove.

Step No. 8—Remove the mounting bracket and complete the finishing of



the stock. This is done with fine sandpaper and steel wool. A dull oil finish completes the job. I purposely used a dull finish because it cuts down on reflection in the woods. After the finish has dried thoroughly fasten the bracket back in place. I glued a piece of felt to the face of the bracket so that it wouldn't scratch or mar the camera. Cut a slot in the felt for the camera mounting screw.

Perhaps you might want to dream up a trigger mechanism of some kind. That's up to you. But I found that the standard cable release held like in drawing No. 8, serves the purpose very well.

You can make additional brackets or adapters for your various cameras. And you might want to drill and tap a hole in the bracket for mounting on a tripod. The possibilities are practically endless, so let your imagination run wild.

COOPERATIVE GAME AND FISH PROJECT

The Game Commission recently approved an agreement whereby the wildlife agency will manage approximately 215 acres of the area owned by the Fish Commission surrounding Lake Somerset, in Somerset County.

According to the agreement the Game Commission will improve wildlife habitat there through the establishment and maintenance of food plots and other plantings and by cutting woodland borders.



A bit of the west in the heart of eastern Pennsylvania, offering outdoor enjoyment for the entire family...

A Sunday Afternoon

By H. R. Wambold

Photos by the Author

AS THE congestion of traffic and the canyons of masonry are left behind, the ribbon of concrete leads towards the Lehigh Valley. The terrain changes to rolling hills interspersed with fields of endless rows of green corn. The warm summer breeze sends waves rippling across the fields of mature oats and wheat, while the small patches of woodland complete a patchwork quilt of pleasant "easy on the eye" scenery.

You are in the foothills of the Blue Mountain, picturesque and uncrowded. A cardinal thrills his melodious song as a woodchuck sits erect in his pompous manner, watching you from his favorite alfalfa patch as you drive by. A sign ahead tells you to turn, and the road winds along a stream bordered by tall majestic willows. This is a branch of the Jordon Creek, typical of small streams with its pools, rocky runs and covered bridges.

A shout from the youngsters brings the car to a stop. There along the edge of the stream in the deep green of the meadow grass is a group of feeding deer. A bit farther up the road is the entrance to the Trexler-Lehigh Game Preserve.

A wonderland of animal life and scenic beauty, you drive slowly when more deer are sighted. As you pass over the crest of a hill a panoramic view of the preserve below compels you to pull to the side.

"There they are, Dad! Over there—Golly Gee, a whole herd of wild buffalo. Are they the kind the Indians used to hunt out west?" By this time the entire family is out of the car enjoying the view. "Oh, Bill—look over there, that must be the palomino horses. Let's drive down; I want to see them closer—aren't they beautiful?" . . . "Bobby! Cissie! Come back here and get into the car."

Descending the hillside you see pens of animals below, crowds of people and a large parking area.

Walking up the center aisle the pens to right and left contain Zebu, three species of Llama, Audodads, Fallow Deer, Mouflon, Barbadoes, Dama Dama Deer, Thar and Ostriches. The antics of the black bear cubs have everyone laughing, and little Bobby fascinated. Then there are Formosa Deer, Mexican Burros, French Alpine Goat, Shropshire Sheep, Indian Antelope, Pea Fowl, Raccoons and Persian Lamb. Feeding crackers are available in the pen area to enable the kiddies (both young and old) the fun of feeding the animals.

The activities of the prairie dogs provide amusement for a while, but the buffalo and palominos draw the biggest crowd. The colts stay close to the mares, but you finally coax a mother and her youngster over to the fence. Everyone takes a try at patting the soft muzzle of the skittery colt. "Daddy, look at those cows; they need a haircut!" Everyone laughs as Cissie points to the Scotch Highland cattle as they walk into view.

Later after a short hunt for Bobby, you find him back at the bear cage. With the family back in formation a courteous caretaker informs you that there are picnic tables just across the stream down below. Piling everyone into the car after survival rations of ice cream cones for all, you drive down to the ford crossing. "Oh, Bill, I'm afraid. Won't we slip into the river?" But the ford is only inches deep with a solid concrete bedding underneath. Across without a mishap, and to the relief of Mother, an empty picnic table beckons.

"Cissie, you set the table while I unpack the sandwiches and potato salad. Bill, carry that basket over for me please. Bobby!! get out of that mud—just look at your shoes!!"

A restful picnic lunch in the shade of the tall trees with background music of the water rushing over the ford. Later, the laughter of the children playing amidst the basso profundo snores of Dad stealing a quick snooze assure you that all are having a good time.

Founded by General Harry C. Trexler, an Allentown industrialist, he set aside these 1,107 acres to preserve the bison, elk and other North American animals. Upon his death in 1935 he gave the land and the animals to Lehigh County. It was stipulated that this preserve be administered by a commission consisting of the County Commissioners, and all the Judges of Lehigh County. Expanded since under the capable management of this group of men, it has grown into a tourist

THE BUFFALO HERD several years ago became infected with tuberculosis and all the animals had to be destroyed. This was a difficult decision because the herd was started in the 1920's. Last year a new herd was started and to all indications the herd is doing fine.



attraction for family groups, school children and civic groups.

The widely known palomino herd, now numbering 48 head, draws horse fanciers from far and wide when the annual colt sale is held. Conducted as a means of maintaining a controlled herd level, the monies realized by the sale are put to use in the overall expense of operating the preserve. The original herd was presented to the preserve by Paul K. Fisher, Souderton industrialist, in 1946.

As in any project of this nature problems do arise. Several years ago the buffalo herd which was started in the '20's became infected with tuberculosis. The difficult decision to have all the adult bison killed was imperative. A new herd which replaced the expanded number became infected in a short time. The opinion was that the calves left alive from the basic herd must have transmitted the disease to the newcomers. Again a decision had to be made. This time all animals were killed. The grounds of the open range in the preserve were thoroughly checked for any trace of tuberculosis remaining. Last year a starting herd was procured from the U. S. Wildlife Service. To all indications this herd is doing fine.

Certain of the hoofed animals in the zoo portion were unable to acclimate themselves to the local weather conditions. Camels and kangaroos were among such species. Again the decision to dispose of such animals and replace with other species beyond the hoofed class was made. Additional animals will again be purchased this year to add to and improve the zoo attraction.

A study is being made to determine what effective publicity would warrant re-opening the preserve on Saturdays. Tried previously the results did not support the extra day, attendance-wise. A broad and well planned advertising campaign is necessary to make this possible.

The grounds are open Sundays and



"JUST LOOK AT THOSE TOURISTS," says one prairie dog to another as they observe the passing parade on a Sunday afternoon at the Trexler-Lehigh Game Preserve.

Holidays from noon to dusk. When weather permits the preserve opens in early April and operates well into November. Last year's attendance numbered 75,000 persons and 15,000 automobiles. An extremely modest admission is charged for adults, with all children admitted free, making this visit well within the means of every family. Drinking water, refreshment stand, adequate clean rest rooms and picnic facilities are provided. Ample parking space allows for leisure observation of the animals and enjoyable

walks.

If you are lucky you may see the herd of elk (presently 27 head) squired by the majestic "royal" herd bull. Roaming the grounds along with the wapiti are 160 whitetail deer. If a visit is made in the fall after the bucks have polished their antlers, you can see buck horns in bunches like bananas. Some of the racks will make the most reserved deer hunter's mouth water! These deer and elk live a life similar to that in their natural habitat, and their general attitude is identical to that while in a wild state.

An artificial lake which will cover between 200 to 400 acres of the preserve land indicates a bright future. The eastern lake shore will be the game preserve. Plans to include recreational facilities along with the viewing of the animals have been formulated. The end result being a major tourist park which will attract vast numbers of additional visitors. Coupled with the fishing potentials of the lake, boating and swimming attractions will demand that the preserve be open on a five-day week basis. To be named Trexler Lake, the schedule for completion is 1972. When completed this will offer an attraction similar to the many such tourist parks found throughout the country. There is no doubt as to the numbers of participants it will attract, nor is there any possible doubt concerning the properly planned operation when completed. Past performances by the capable commission prove these points.

Bordered on one side by the 1,500-acre Trexler Orchards — famous for their fruit—and on the other side by a 1,287-acre tract of State Game Lands No. 160 adds to the future potentials of this recreational area. What better way could your family spend a Sunday afternoon.

"What's that podner? You say a buffalo stampede is heading this way? Well, I reckun we'uns better sashay over to the refreshment stand saloon and have a schooner of birch beer—just to wash down this ole prairie dust." . . .

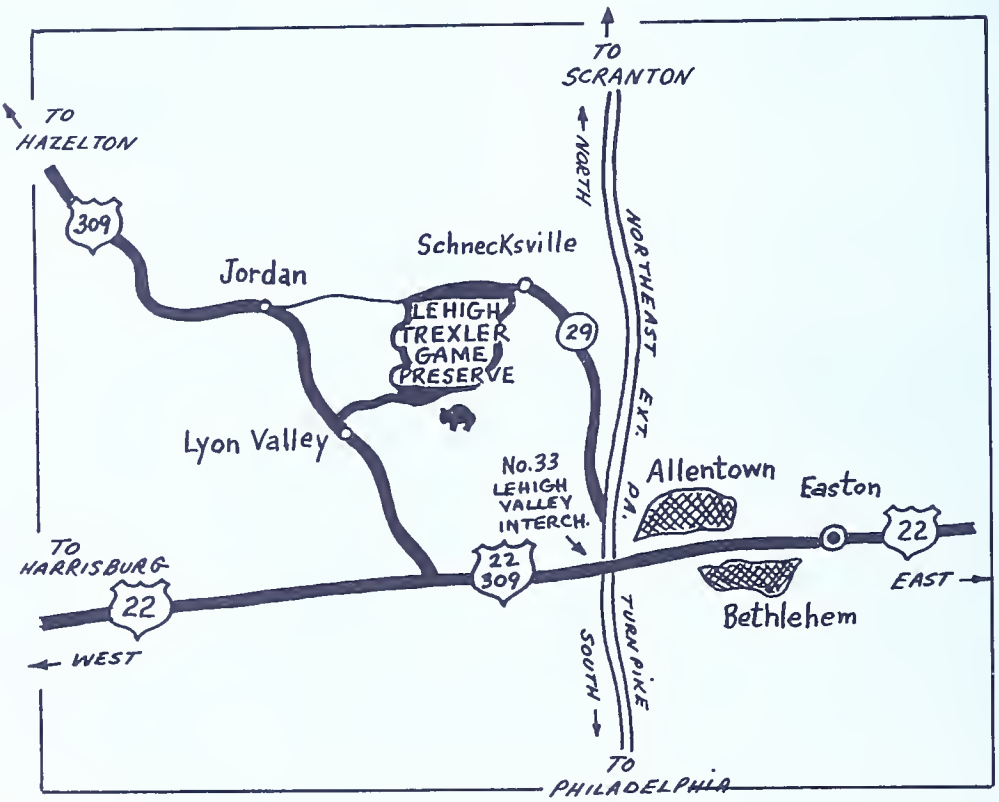




Photo by Hal H. Harrison

The Fashion Era of

FICTITIOUS FURS

By Wilbert Nathan Savage

THE most able trapper of all time never caught an Electric Beaver, a Linette, a Rock Sable, or a Marcoon. And certainly he never stretched the pelt of a Chinola, Bluerette, or Ercomine. Yet, in the merchandising world of finished furs, such razzle-dazzle names once flourished in fertile profusion. It took direct action by Uncle Sam to stop the rollicking make-believe nonsense, and now the hare has again become a hare; the opossum bears no tricky title; the lowly skunk is not passed off as a polar marten, etc.

For many decades the majority of enterprising furriers considered it a routine pitch to invent exotic names for garment and neckpiece pelts. Catchy pseudo names were especially favored for skins which happened to come from the humbler fur bearers. At first, false designations were limited to a few choice misnomers. But as time went on, fictitious names in the fur industry became more plentiful—as well as more absurd and misleading. Heavy customer demand and rivalry among furriers teamed infectiously to bring into fancied being creatures so novel that they easily put to shame the griffins and centaurs in myths of old.

In prudent fairness to the fur industry, it was not wholly to blame for misnaming pelts contained in finished products. Actually, from the outset,

the ladies generally loved the whole burgeoning idea! After all, didn't Alaska Sable sound a lot better than plain old skunk? And who'd admit to wearing a coat made of dog fur when it could readily be tagged as Black Pioret Fox? Or what woman would want to visualize a coat made of drab Potter County possum pelts when Russian Black Marten fairly sparkled with classy zest?

Names that catered to vanity showed up well in fur garment sales charts. Impressive fur monikers—the kind that could be passed along in society with bubbly pride – represented a subtle brand of deception that milady rather liked. In short, it was fun to be fooled. The hint stuck out like a sore thumb, and the customer-approved race into fur fantasyland gained a new tempo of movement. Each new style season ushered in fresh flights of fancy in "rare and exclusive furs." The entire trend became a charming kind of game—and buyer and seller showed an equal willingness to play!

Picturesque trade names caught up with some animals not usually thought of as logical candidates for fur coat material—such as Tabby the house cat. But actually the skins of black domestic cats were for many years in particularly brisk demand. Leading fur auctions—especially those held in the 1920's and 1930's—sometimes reported large prime pelts selling at close to a dollar each. This made it mighty tough for Mr. Cat, for many a midnight yowler was unceremoniously called on to surrender his skin for the making of glossy garments. Depression years were especially devastating for the tame Tabby. For pursuit of the scarce dollar put tens of thousands of cat hides on the U. S. fur market. One auction in New York City handled over 2,000 domestic cat pelts in a few hours! (The Frederick Hutt Auction, February 10, 1930.) After the pelts had been processed and dyed, Sir Tomcat became known, among other things, as California Mink, French Lynx, and Mountain Sable. Of course Pennsylvania supplied its share of the hapless felines.

If cat fanciers were to wax indignantly over the bold taking of Tabby hides (and many deplored the thought!), then dog lovers had reason to become infuriated over the frequent fate of poor Rover. For his pelt also

SOMEONE ONCE SAID that badger hairs were used at one time in a foxy manner to make silver foxes look foxier. There's truth in that statement, for badger hairs were used in "pointing" certain silver fox pelts.

Photo by E. P. Haddon



was commandeered for the market. Coming mostly from countries outside the United States, processed dog skins took on such beguiling names as Manchurian Fox, Black Pioret Fox, Chinese Wolf, Belgium Lynx, and Isabella Fox.

The marmot clan, of which the woodchuck is a bona fide member, gave up pelts that later were to bear such enticing tags as Russian Weasel, Far Eastern Mink, Florida Mink, Marcoon, Marmink, Nu-Mink, and Mar-Konie. Only full-furred pelts could be used, and even then it wasn't easy to put the luster of mink on a skin that often sold originally for pennies!

As one might expect, the homely old opossum generally had a difficult time trying to retain his true identity in the fashion world. He was forever finding himself being dyed in a painful transformation from possum to Russian Black Marten, Russian Brown Marten, Australian Chinchilla, etc.

Skunk pelts yielded to the magic wand of furriers to become Alaska Sable, Dipped Marten, Hudson Bay Sable, Black Marten, and so on. Number 1 black pelts usually were made up in their natural color, but striped "kitties" had to be dyed in order to cover up any traces of association with that dreadfully scented land of skunkdom. Northern Pennsylvania skunk pelts graded out among the best, but when a trapper caught one you can wager on one sure thing: he never tried to fool himself into thinking he'd taken a Hudson Bay Sable! (I recall the first skunk I inveigled into a trap. The scene was an old hillside field near the Maryland-Pennsylvania border south of Confluence—and brother sportsmen, even at the tender age of eleven, I *knew* I had caught a skunk!)

The "rat" connotation attached itself to the muskrat tribe in such a way that it frequently erased all visions of elegant splendor in fur coat circles. In fact, the mere hint of encroachment by furry riffraff tilted some noses almost as much as "polecat" or "skunk"



A DOUBLE DECEIVER was the muskrat. His pelt was tagged with a variety of fictitious names and his flesh often made its way into eating places as "marsh rabbit." His pelt would end up as Hudson Seal, Bisam Mink, etc.

might have. Consequently the muskrat became Bisam Mink, Hudson Seal, Water Mink, Seal Musquash, Hudsonia, Southern Mink, Loutrine, Northern Mink, and a few other labels in the falsie department. Of course all changes took place after completion of a special dyeing process. Natural muskrat found a good spot on the market as River Sable. And—what do you know!—it sometimes got by in acceptable taste as *muskrat* where ultra-refinement regulations weren't totally in charge.

The raccoon usually slipped past the fur-labeling department without an alias. But sometimes, in a dyed state, he became a sable of one sort or another. The various foxes also found it easy to exhibit their real names. Occasionally, however, the red



THE RACCOON SELDOM was forced to have his pelt racked up as a fictional fur from the world of make-believe. But even now the origin of his fur must be clearly marked on the garment into which the pelt has gone.

fox would stray off to become Sitka Fox, Sable Fox, etc. Like the mink, Reynard often found himself suffering the humility of imitation by other animals. The common rabbit bowed to charming influences and became Russian Taupe Fox, Foxaline, and Baltic White Fox. Dyed lamb became Iceland Fox; llama hides could be either fox or wolf; the hare became Hair Fox; and of course numerous pooches who probably hated foxes gave up the ghost to masquerade as select members of the *Vulpes* order.

Even the squirrel did not escape imaginative labeling, the innocent little flying squirrel included. Belly portions of certain squirrels were clipped from the pelt and after painstaking dyeing and sewing became Imitation Ermine. Whole pelts went on to pose as Sabeline, Chinola, Flying Fox, and other striking shop-window characters. (Mention of the word "imitation" in connection with the belly strips of squirrel pelts in no way was meant to imply that the fur wasn't exquisite in its own right. One knew that the ermine was being imitated, but identity of the imitator never got beyond the alluding *Guess Who* stage.)

Some of the more ludicrous misnomers include the hare as he converted to French Leopard; the goat and his transition to Giraffe Kid and Chinese Bear; the rabbit who outdid himself in becoming a Baltic Tiger and Electric Beaver; etc. Of course all switches were by courtesy of man's ingenuity sans consent of the victims.

Champion of all masqueraders was the rabbit (remember that in proper classification he differs from the hare). About a decade ago Br'er Rabbit finally reached the point where he was regularly tagged with well over a hundred trade names! In the beginning this wasn't the case, but each passing year saw Mr. Hippity-Hop taking on crisp new aliases.

For a long time his promoters were satisfied to have him parade around

as a seal or a beaver. But gradually he developed into a myriad assortment of select characters—from Coney Mole and Galland Squirrel to Black Lynx and Russian Leopard. He was even called out to brazenly pretend he was a Baltic Red Fox, a Meskin Ermine, a French Sable, and a purely mythical Cocalette. At other times he was a Minkony, a Chapchilla, a Bluerette, a Lapin, and a Marlotine.

When he took on the make-believe identity of the seal he was a Polar Seal, Roman Seal, Arctic Seal, Cape Seal, Bay Seal, Laskin Seal, etc. And in the beaver line he ventured forward to become Twin Beaver, a Mendoza Beaver, a French Beaver, and many other varieties of *Castor canadensis.*

Fur bearers that traditionally brought a flush of excitement and visible pride to fur garment enthusiasts rarely had to endure the chagrin of having their real identities disguised in favor of clever designations. The mink cockily remained a mink—from trap and fur ranch to the best fashion centers. The marten remained a marten, or at worst a sable. But the fisher frequently had to be willing to squeak by as a Canadian Marten. The beaver seldom experienced difficulty in keeping the family name intact, a fact that also held true for ermine, seal, lynx, otter, and so on.

One of the most deceptive but adroit methods of using a common fur to aid in the false creation of an expensive-looking garment was the process known as "pointing." This simply involved the glueing of extra guard hairs to certain skins to give them a costlier appearance. The scheme was most popular with silver fox pelts, particularly those lacking the blessing of a normal sprinkling of guard hairs. "Pointing" experts found badger hair best suited to the mock makeup. But even when they had filled the deficiency gap in the silver fox pelt, detection of the trick was rather easy. For badger hairs are silver-gray from end to end, while hairs of the silver fox are black at the base, silver in the middle, then black again at the tip. Perhaps the whole method was similar to the task of rendering a brunette platinum blonde without dark roots peeking from the scalp!

The term "blending" referred to a system of taking off-color and moderately unprime pelts and dyeing them in such a way that they could go undetected into a garment and match the rich appearance of top-grade skins set up for the forming pattern. Thus some pelts that had originally graded out poor to fair could be worked into garments that managed to reach that distinguished plateau of upper-price-range good taste. (Rule 19, paragraph "f" of the Fur Products Labeling Act prohibits use of the word "blended," but pointing, tip-dyeing and other artificial methods still are permitted if such processing shows up on the labels and in advertisements covering the product.)

On August 9, 1952, the inordinate race to invent attractive new names for our less glamorous fur bearers came to a halt—along with certain bad practices in the operation of scissors and sewing, selection and finishing. The Federal Trade Commission had for years been eyeing the fur industry. Undeniably the habit of giving furs false names had long been running rampant, and just as undeniably, no other industry was allowed such broad irregularities in deceptive labeling. Certainly no one could legally label

DENYING THE SKUNK of glamorous names such as sable of one kind or another has not ended his career in fashions. More and more he is being accepted no matter what his name might imply.



cotton as wool, nor plastic as genuine leather. The time obviously had arrived when something would have to be done to improve the situation—and what a furor was in the offing! The entire fur industry stood 100 per cent in opposition to the Government's plan to introduce "truth in fur" legislation.

The collective cry was that such legislation would deal a fatal blow to the country's gigantic fur business. But to abbreviate a long story, the pill failed to be as bitter as first expected and a move toward truth in fur labeling proved a step in the right direction. It soon became clear that for the whole fur empire twilight had come to the day of exaggerated superlatives and misleading gimmick-ized promotions of merchandise. Now there could only be mutual benefit in the departure from misrepresentation and mislabeling.

When Harvey H. Hannah, Chief of the Federal Trade Commission's Division of Wool, Fur and Flammable Fabrics, spoke in Denver at an annual meeting of fur producers, he indicated that a long record of false labeling in the fur industry had ultimately resulted in "product confusion and a loss of faith in the industry. . . ." He also pointed out that "through mandatory disclosure of essential facts in fur labeling and advertising, the Act has brought in new customers and restored the confidence of regular purchasers. . . . Buyers feel protected as they make selections; and at the same time that reliable device known as *truth* has clinched many a sale for dealers. . . ."

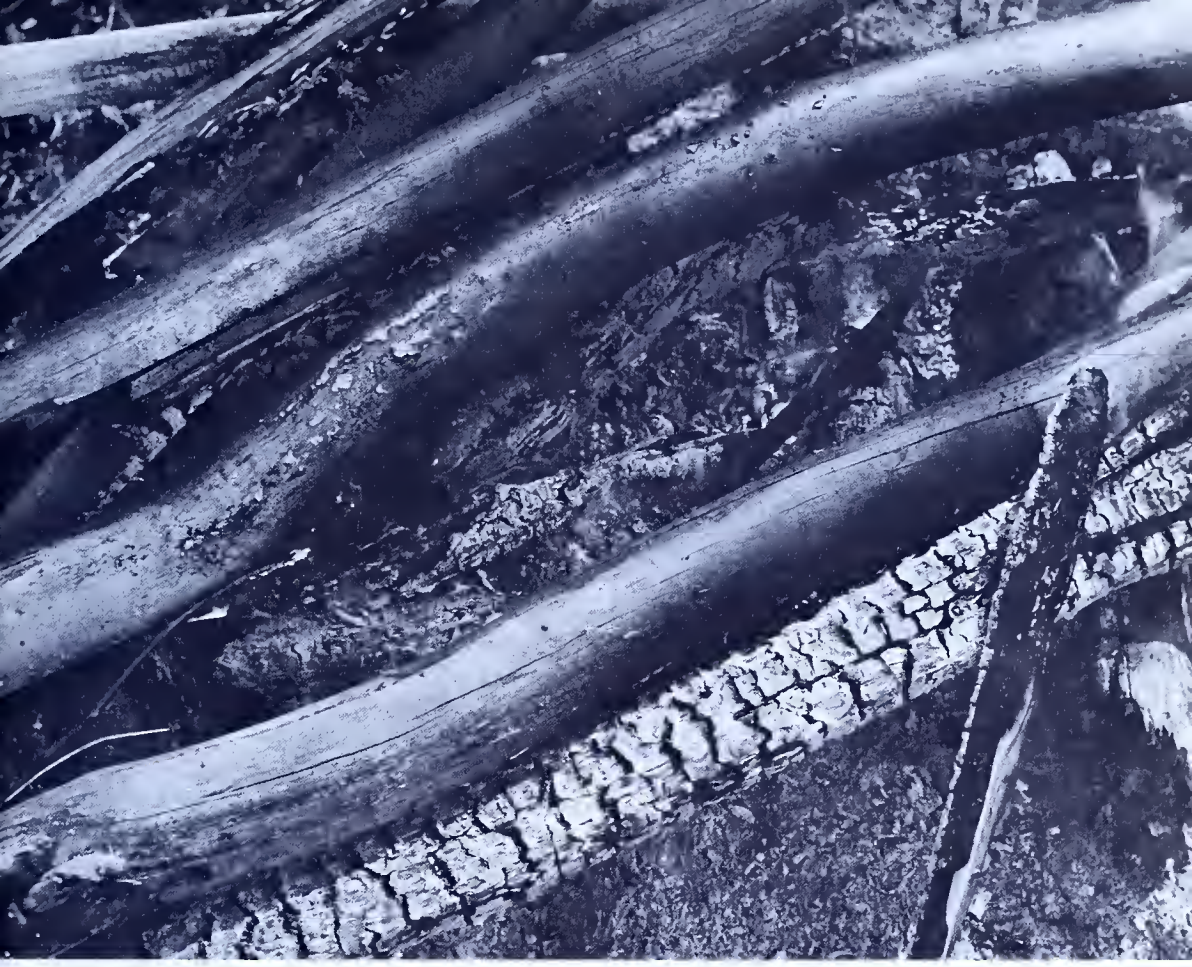
No one disagreed with Mr. Hannah's statements. For surveys indicated that while a few wistful and starry-eyed cases of fur-fabric devotees did exist, the majority of buyers no longer wished to blithely go on paying fabulous sums for fur items bearing phony names. Somehow the it's-fun-to-be-fooled idea had run its course to exhaust itself as a faddist's cast-off. Suddenly it was more fun to be able to boast a penetrating knowledge of the four-footed creatures who had surrendered pelts to provide style, warmth, and a varying degree of prestige.

As everything turned out, the fur industry is happy, milady is happy, and Uncle Sam is happy. As for the main subjects involved in the complex situation—well, I got myself a feeling that, one way or the other, they just couldn't care less!

PORTRAITS OF THE SEASON

August

A BREATH of air spills pollen down the breeze. Dust-devils dance in the wheel ruts that run across the valley and through the goldenrods of August. The creek that spumed its way in April with mighty shoulders and a tossing white suck of water, now cups in tepid pools along its mud-skinned and crackled bed. Goldfinches and Cedar Waxwings have only begun to think of nesting, but old man woodchuck is laying on his winter fat and the night-ringing crickets tell of year's end tomorrow. The fox brood is dropping milk teeth one by one and beginning to harden to the way of a fox. Dust-choked weeds grow obscene and rank at wood's edge and the thistles are drowned in bees. The young hound bells to the coon who drops his crayfish and heads for the hollow sycamore. Summer constellations dip low to the west and the lengthening night stirs in the aster buds. The velvet bucks still guard their swelling horns, but grow more impatient with each day. This is the time of the grasshopper, and the skunk waxes fat and glistening on them. The mewing barn owl, ghosting the fields above him, likewise finds the hunting to be good and the pile of mouse-boned debris around his roost grows mightily. August is a fat month and the woods spill life to its brim.—*John Guilday*



POWDERED CHARCOAL and common chimney soot provide black dyes. Copperas crystals were dissolved in the water of the dye-kettle to which the powdered charcoal or soot had been added before simmering. This procedure made the black "fast" and fadeless.

Our Foremothers Found Penn's Wood A Source of Many Colors...

Dyes From Pennsylvania Forests

By J. Almus Russell

Photos by Don Shiner

On winter evenings, one might have seen by the light of the roaring log fire, the pine torch, or the flickering candle . . . the older children mixing the dye in the indigo tub. . . .

Alice Morse Earle

RED, orange, yellow. Beige, tan and brown. Green, blue, and black. Such were some of the artistic colors which our colonial ancestors secured from the Pennsylvania forests before commercial dyes were in use.

Sassafras, dogwood, and hickory. Barberry, blueberry, and bayberry. These trees and shrubs provided only a few of the settlers' vegetable dyes. Sometimes, however, the pioneers were forced to rely upon such forest plants as bloodroot, goldenthread, wild indigo, and other dye-producing flowers.

Indeed, our foremothers found early in their experience that home dyeing was not an exact science. Rather they were interested in its practical and artistic possibilities in which every



TWO POUNDS of fresh black birch leaves used as a dye in accordance with the routine procedure will give a yellow dye. Eight quarts of black birch bark, finely chopped, will dye a pound of wool a reddish brown.

new experiment revealed an elusive beauty all its own. In fact, such forest dyes did not harm the yarn, wool, or fabric but constituted a real preservative, lengthening the life of the materials thus colored.

Home dyed colors kindly meller down
Better than the new ones fetched from town.

The processes involved in this now almost forgotten home industry included the implements used, the collection of materials, preparation of dyestuffs, and the dyeing process itself.

The dye-container might be a two-gallon pot made of extremely porous clay earthenware. Usually this jar was heavily glazed on the inside; unglazed on the outside. Sometimes a firm-fitting lid kept the nauseous-smelling contents from splashing and from releasing unpleasant odors. Other times the lid rested upon the top of the crock. This was apparently considered better for the condition of the dye.

Chamber-lye, an example of a primitive mordant, demanded such a covered pot although the smell was partially offset by floating in the liquid a little bag of hardwood ashes or a sweet flag root dug in a nearby meadow.

Some families employed a wooden dye-tub, heavily coopered against leakage and reinforced with firm wooden hoops. Such a tub may have been hand-fabricated from the cross section of a great tree, hollowed out with a curved iron shave.

Also a Children's Seat

This wooden container held the prepared dye in which the goods were to be tinted. Placed at one end of the fireplace hearth, this tub was also used as a children's seat. If it were accidentally tipped over, the matter became a never-to-be-forgotten incident, both because of the unpleasant odor and indelible stain.

Convenience and expediency often required that the great brass kettle, used between times for making apple butter or boiled cider applesauce, be pressed into service. First this container was thoroughly cleaned inside and out with scouring rushes, wood ashes, or a vinegar-salt paste. In such a kettle the dyes were steeped from the raw materials before they were poured into the tub in which the goods were to be colored. In such a kettle the cloth was sometimes boiled to set the dye.

Sarah Kemble Knight, early American diarist, while making a trip on horseback in 1704 from Boston to New York, wrote in her journal of her eating experience:

About two, afternoon, arrived at the post's second stage where the western post met him and exchanged letters. Here, having called for something to eat, the woman brought in a twisted thing like a cable, but something whiter; and laying it on the board, tugged for life to bring it into a capacity to spread; which having with great pains accomplished, she served in a dish of pork and cabbage. The sauce was a deep purple, which I thought was boiled in her dye kettle. . . .

Next in the dyeing process came the collection of dye materials: bark, roots, leaves, hulls, and flowers.[1] These were cut up finely; then pounded well in order to separate out the pigment. Then they were dried, stored in paper sacks, and finally hung from the rafters of a dry, airy attic.

When desired for use, the macerated products were placed in a dye kettle and simmered just below the boiling point until all of the color was extracted. Some dye products were merely soaked over night without boiling to obtain the dye wanted.

The following quantities of raw materials were needed for dyeing a pound of wool:

Bark—8 quarts, finely chopped
Flower heads—1½ quarts, dried
Flower heads—12 quarts, fresh
Hulls—8 quarts, dried
Leaves—6 quarts, dried
Roots—quantity according to strength of infusion desired, dried

As these vegetable colors were not "fast" but were subject to fading, the color had to be set before or after dyeing to "fix" it in the goods. Such an agent was called a mordant and had much to do with the intensity and "fastness" of the dyed cloth or wool or cotton.

The First Mordants

Early day mordants were varied and sometimes home-produced. Copperas (verdigris), in an emergency, could be scraped at cleaning time from the inside of the brass kettle. Vinegar of the requisite strength was obtained from keeping hard cider overlong in the farm cellar. Strong tea or steeped hemlock bark contained tannin. Soft soap and rusty nails were always available.

By common consent chamber lye, saved for weeks ahead of the dyeing period in a storage barrel, was kept available. Alum, soda, salt were all bought from itinerant peddlers as were the universally used indigo crystals.

For example, copperas in the form of powder or greenish crystals, dissolved in the water of the dye-kettle before simmering or along with the coloring process, made black "fast."

Indigo blue dyed fabrics lighter or darker according to the time that the goods was left in the dye solution. To set a light shade of blue, fresh chamber lye or strong cider vinegar was required.

The early settlers depended upon wild indigo for various shades of blue. They culled the blossoms while in full bloom, for at that time the sap was running free and the flowers were of a deeper hue. Then blooms and stems were dried, crushed, and steeped before the juice was used.



THE INNER BARK of the hemlock tree produces a tan color. The New York Indian name for this dye-producing tree is "Oh-ne-tah"—meaning "green on the stick."

[1] Lichens scraped from pasture boulders and forest trees were used as dyes, with some fifty varieties available. The lichen is a substantive dye and requires no mordanting when used with wool.



THE FARM BOY who has shucked black walnuts can remember the almost indelible sticky brown stain that refused to be washed off from his hands. Hence it is not surprising to learn that a mahogany-brown dye was made from boiling together the hulls and the inner bark.

After the dye materials and the suitable mordant for setting the desired color were combined in the dye-kettle, the boiling dye was stirred with a wooden paddle.

Of course different goods required different lengths of time for dyeing. Yarns and homespuns were removed from the solution two or three times a day, wrung, aired, and then returned to the bath where they might remain for several days more to attain the right shade of color. These products were usually left in the lukewarm dye solution on the warm hearth.

The thrifty dame always made enough dye to color an entire batch of goods as the exact color could never be duplicated. She took care to put the dyestuff in the kettle cold. She rinsed the materials well to remove the excess mordanting liquid, taking care to simmer but never to boil the contents. Otherwise, excessive stirring or boiling matted and shrunk the wool.

When the desired color was obtained, the kettle was removed from the heat, the goods were allowed to cool in the dye-water, the excess mixture wrung out, and a final rinsing was given until no color came out with the rinse. The materials were now dried and stored away for future use.

If skeins of wool were to be colored, they were loosely tied, dipped, and finally removed on sticks or wooden forks before the final cleansing process took place. Cotton required additional processes for mordanting.

Red, orange, yellow. Beige, tan, brown. Green, blue, and black. With the creation of such beautiful, original, and artistic colors for personal and household adornment, the home craftswoman might well exclaim in Shakespeare's words—

My nature is subdu'd
To what it works in, like the dyer's hand.

TWENTY TREES FOR VEGETABLE DYES

Trees	*Colors*	*Dye Materials*
Alder	Bluish-black	Bark mordanted with copperas
	Black	Charcoal
Apple	Yellow	Bark
Balsam	Yellow	Flower and leaf
Black Birch	Reddish-brown	Bark

Black Walnut	Black	Autumn leaves
	Mahogany brown	Hulls
Butternut	Gray	Shucks
	Seal brown	New spring bark
Chokecherry	Reddish-purple	Roots
Dogwood	Red	Fibrous roots
Dyer's Oak	Yellow	Inner bark
Hemlock	Tan	Bark
Hickory	Green	Blue goods boiled with a decoction of hickory bark and laurel leaves
Horse Chestnut	Yellow	Macerated inner bark
	Bright brown	Husks
	Yellowish-brown	Nuts
Osage Orange	Yellow	Roots and heartwood
Red Cedar	Khaki	Berries
	Purple	Top branches
Red Maple	Dark blue	Bark mordanted with copperas
	Black	Bark plus Scrub Oak bark
Red Oak	Red	Bark
Sassafras	Pinkish-brown	Root bark
Soft Maple	Purplish-black	Bark mordanted with copperas
Sumach	Gray	Bark, roots, branches
	Yellow	Berries mordanted with alum
White Oak	Tan	Bark

FIVE SHRUBS FOR VEGETABLE DYES

Shrubs	*Colors*	*Dye Materials*
Barberry	Red	Wood and inner bark
Bayberry	Blue	Processed berries
	Green	Processed leaves
Blueberry	Dark blue	Berry juice
	Dark brown	Berry juice processed with oak galls
Blackberry	Bluish-gray	Berries mordanted with alum and cream of tartar
	Near-black	Green shoots mordanted with iron
Elderberry	Green	Processed leaves
	Lilac-blue	Processed berries

TEN PLANTS FOR VEGETABLE DYES

Plants	*Colors*	*Dye Materials*
Bloodroot	Red	Roots
Blue Flag	Violet	Petals
Celandine	Reddish-orange	Juice of plant
	Yellow	Roots
Dyer's Weed	Brilliant yellow	Blossoms
Goldenthread	Yellow	Roots
Mullein	Greenish-yellow	Juice of plant
Orange-root	Yellow	Roots
Pokeberry	Cochineal red	Berries with vinegar mordant
Wild Indigo	Blue	Juice from stems and blossoms
	Green	Juice from stems and blossoms added to juice of goldenrod blossoms
Wild Madder	Red	Roots

WILD

By

Pho

Sportsmen afield encounter a
chuck-full of nourishment and car
Shown here are ten common w
The names of the fruits and h



1.



2.



3.



4.



6.

RUITS

ner
uthor

delectable wild fruits. These are
red to supplement the field rations.
Check those you can identify.
eir use are listed on page 44.



5.



7.



8.



9.



10.

FIELD NOTES



Culvert Cleaners

VENANGO COUNTY—One day I stopped to talk to a road supervisor in President Township. Some comments were made about the amount of game killed on the highway. He said, "They have really been knocking off my little culvert cleaners." Seeing the puzzled expression on my face he explained further. "Those ground hogs are the best culvert and drain cleaners I have." This was one of the benefits wildlife does for man that I had never heard of before and it's for free. — District Game Protector John R. Miller, Oil City.

Albino Rattler

CLINTON COUNTY—Mr. Brown of Mill Hall came to me the other day with a rare one. It seems that he has the hobby of catching rattlesnakes and earlier this month while on a snake hunt in Tioga County he caught an albino rattlesnake. The snake was all white although the diamond shaped markings were clearly distinguishable. It was around 40 inches long. — District Game Protector John B. Hancock, Mill Hall.

Jonah the Grouse Egg

SNYDER COUNTY—On the Shade Mountain archery range, members were gratified in locating three grouse nests which they observed from a distance so as not to disturb the hens. On Sunday, May 20, during an archery meet several archers heard a commotion in the vicinity of one of the known nests. Investigating immediately, they were amazed to see two black snakes in the nest with mother grouse frantically trying to put them out of the nest. One snake had swallowed one egg. The men killed the snakes and with the death of the snake the grouse egg was regurgitated. This egg was placed back in the nest and much to the satisfaction of the archers in about an hour mother grouse was contentedly sitting on the nest as if nothing had happened. These particular black snakes measured 68″ and 65″, respectively.—District Game Protector Ivan L. Dodd, Middleburg.

Canned Chuck

LEHIGH COUNTY—The last time I visited my home in Rocky Hill, Chester County, I was informed by my brother-in-law, Edward Brewer, that he had taken some trash to a nearby dump and while there, he heard a commotion under some brush. Upon investigation he discovered a young ground hog with an orange juice can firmly attached over its head. Ed caught the animal and removed the can and released the seemingly none the worse for wear chuck.—District Game Protector E. F. Bond, Allentown.

Heavy Fawn Production

WYOMING COUNTY — Eight of the eleven doe yearlings known killed by vehicles to date in District 5-66-1 were examined for pregnancy. Five of the eight examined were bred and would have had their fawns on approximately their first birthday. Eight adult does examined for pregnancy were found to be carrying a total of 14 fawns. One of these adult does was carrying triplets. All of the deer examined were generally in good condition.—District Game Protector Philip S. Sloan, Tunkhannock.

Capacity Clutch

LUZERNE COUNTY—Chief of Police Carl Meiss of West Hazleton related the following story to me: On May 7, Chief Meiss and hunting partners Kenny Stecker, Joe Lazo and John Brehm were on their weekly crow hunting expedition to the adjoining counties. This day they ventured to Pine Grove, Schuylkill County, to hunt the black feathered predator. While calling crows near this community, Kenny Stecker, who was along mainly to take some pictures, spotted a hen pheasant with feathers fluffed out sitting on a nest. He thought the bird seemed to be attempting to cover a big nest and when she flushed he saw why. This hen had been sitting on a nest containing 25 pheasant eggs. Besides the other three witnesses, Mr. Stecker had pictures to prove this rare sighting.—District Game Protector Robert W. Nolf, West Hazleton.





Traffic Cop in Fur Coat

CAMERON COUNTY—While returning home from the Ross Leffler School of Conservation on Friday evening, May 11, 1962, I had a good sized black bear enter the road ahead of me between Emporium and Austin on Route 872 and stop. Slowing to stop I was surprised to see a pair of cubs cross while "Ma" played traffic cop. This was about 7:00 p.m. and was the first time I had seen two cubs together. — Student Officer John A. Booth, Ross Leffler School of Conservation.

Hot Pheasant

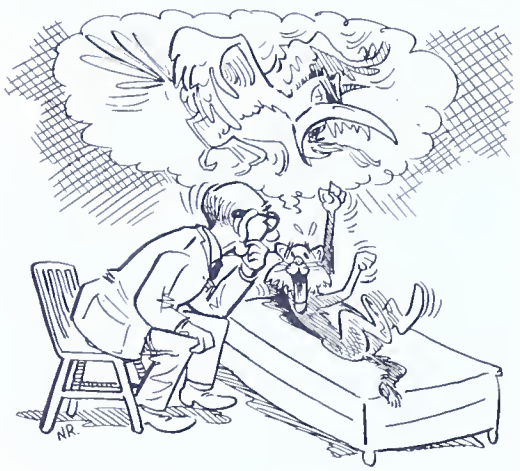
MONTGOMERY COUNTY — The following story was related to me by Deputy Bill Williams of Limerick. A friend of his, Richard Marks of Stowe, bought a farm with an old farmhouse on it just over the Montgomery County line at Earlville in Berks County. Sometime in early May, Mr. Marks went up to his property to look it over and inspect the buildings, etc. As he neared the house he kicked up a pair of pheasants, one cock and one hen. The hen bird unfortunately hit an electric wire and exploded in mid-air with a blue flame and fell to the ground. The dead hen started a field fire requiring a number of nearby farmers to come to Mr. Mark's aid to help put it out.—District Game Protector W. Shaver, Harleysville.

Building Materials

LEBANON COUNTY—Recently I was informed of an incident in the town of Mt. Gretna where an oriole took advantage of a wash day to build a nest. The bird tore pieces of yarn from the frills on a blouse that was drying on a wash line and used it to build a nest nearby.—Land Manager S. C. Mace, Mt. Gretna.

Birds Attack Cat

YORK COUNTY—A complaint was received that a resident of York County had just killed a mockingbird to protect his cat. I wondered if the whole story might be just a rumor as I could not believe that a cat would need protection from a bird. However, upon investigation, I learned from the accused that he did kill a mockingbird and that it really was to protect his cat who he claimed was afraid to come down off the porch because of the bird. The man was sure his cat was about to have a nervous breakdown. While driving home, I could picture the cat on a little couch telling the whole story to his analyst who explained the cat's trouble this way: "You must have been frightened by a feather when you were a kitten." —District Game Protector W. A. Griffie, Dover.



Why Do They Do It?

JUNIATA COUNTY—In the minds of most sportsmen, the only serious predator on game is stray dogs, cats, and predatory wildlife. They all realize that in cold months just before hunting season, a few men poach game but "never" during the summer. It's no wonder a game protector is just a little suspicious of anyone. Last month just as a flock of turkeys were getting ready to lay, a human predator shot into them and killed a hen and the only gobbler in the bunch. He didn't need the meat, in his words "just wanted to get one before somebody else did." This month, I had a nice buck with 6″ antlers in velvet shot. When I confronted the offender and asked why, he replied, "I just wanted to see if I could hit it." No attempt was made to use this deer, just shot, looked at, and left lay. Sometimes we begin to lose faith in human nature, but then again we can look around and see how many really honest and interested sportsmen there are in this state and it makes everything seem okay again.—District Game Protector Robert Shaffer, Mifflintown.

Only 34 Years New

LAWRENCE COUNTY—Mrs. Andrew Dodds of New Castle, a member of the Conservation Group of the Ladies' Club, related the following: The acting chairman at a meeting was just bubbling over with enthusiasm about a new find in conservation material. She told the group "this new little magazine is the answer to our problems. It covers most of the projects for our conservation work, bird houses, plantings for birds and just everything." The ladies just couldn't wait to see the answer to their prayers. The lady excitedly produced the Pennsylvania GAME NEWS. Some ladies were amused since they had been reading the GAME NEWS for years.—District Game Protector Calvin A. Hooper, Jr., New Castle.

Liquid Dynamite

ELK COUNTY—Early one morning this spring I was awakened by a crashing sound in my basement and not hearing anything else I just rolled over and continued to catch a little shut eye. Several minutes later I was awakened by my wife and she said as she held her nose that she had heard the crash in the cellar and that she was convinced there was a skunk down there. The whole house at that time was "pretty strong" and an unbelievable odor was coming out of the heat runs. While she was opening doors and windows I went to the cellar to investigate and without much trouble I found where the smell was coming from. The night before I had hung a water hose on a shelf not capable of carrying the weight of the hose and as a result it finally broke loose in the morning and down came shelf and all. On this shelf there happened to be a bottle of "liquid dynamite" or what is commonly called fox lure and this little one-ounce bottle had smashed when it hit the floor. Needless to say, I received further instructions from the better half on the storage of my trapping potions.—District Game Protector Fred H. Servey, Jr., St. Marys.

The Mowing Slaughter

CHESTER COUNTY — The usual slaughter of hen pheasants by mowing machines has begun. Two farmers report cutting up twelve hens on the first day of mowing operations. One farmer cut up six hens in 2½ acres of hay. The other farmer cut up six hens in 20 acres of hay. A survey conducted several years ago revealed that 50 per cent of pheasants were destroyed in mowing season. I believe this percentage of kill is greater today because of limited suitable nesting cover on the average farm.—District Game Protector P. J. Filkosky, Parkesburg.



Buck Gets the Farmer's Goat

BUTLER COUNTY — Early this spring a landowner in Northern Butler County reported a buck deer was eating and had ruined his young fruit trees that were growing on his farm. However, what seemed strange about the report, this buck deer was staying in an old barn on the place when he was not out trimming the fruit trees. Deputy Game Protector Ken Thompson and Tony Severino of Boyers went out to investigate. The owner told them the deer was standing in the barn at the time. Thompson and Severina went to the barn to investigate and found a brown billy goat which had strayed—from where, no one knows. The billy goat was later removed and so thus ended the damage to the fruit trees.—Land Manager W. E. Portzline, Slippery Rock.

Deer Kill High

BRADFORD COUNTY — During the month of May there were twenty known deer killed in my district. Nineteen of these were killed by automobiles and one by dogs. Five of these deer were pregnant and carrying seven fawns, making a grand total of twenty-seven. In 1960 during the month of May, I had only five deer killed, with one being pregnant and carrying two fawns, making a total of seven.—District Game Protector Donald E. Watson, Towanda.

Mother to a Golf Ball

HUNTINGDON COUNTY – May 26, 1962, Deputy "Abe" Costlow was walking through a grassy field in Oneida Township when he flushed a meadow lark. Upon checking the nest he found the bird had been sitting on only one egg, a golf ball. Abe removed the one egg with hopes that the meadow lark will lay a clutch of eggs like other normal meadow larks. Ground nesting birds have a most difficult time as it is without trying to hatch the impossible.—District Game Protector Richard Furry, Huntingdon.



Dog Eat Dog

FRANKLIN COUNTY – While checking fox traps recently a local trapper, Al Zinn, was startled to see two foxes standing at one of his sets. What he could not understand was how he could have two foxes where he had only one trap set. As he approached the set one of the foxes jumped up and ran over the hill and Zinn figured that he had the other in the trap, but to his dismay the other red fox jumped up and also ran over the hill. Disappointed he went to his set which by now had cleared of foxes and there in a heap lay a third red fox beaten and chewed to a pulp. I later went out to this set and it looked as if someone had shaved all the fur off the fox and had strewed it all over the set.—District Game Protector Edward Clark, Chambersburg.

Dive Bombers

FOREST COUNTY—I had an unusual complaint in May. Phillips Fruit Market in Marienville reported trouble with starlings. Investigation revealed that several dozen of the birds were making raids on bushel baskets of freshly roasted peanuts which were displayed in front of the store. They perch in trees across the street and as soon as the proprietor is busy with a customer or turns his back they dive down at full speed and return to the tree with a peanut without even slowing down. Incidentally, I haven't solved this problem yet. – District Game Protector David Kirkland, Marienville.

Scare Rabbit

CLINTON COUNTY – If rabbits are causing damage to garden crops, try placing a glass jug or jars at each end of row. It works.—District Game Protector Cecil D. Hancock, Port Allegany.

Battle of Feathers

ERIE COUNTY—George Trputac, a sportsman in the Edinboro area, reported watching a flicker and a starling compete for a nesting cavity in a tree. The tree grew over a stream and the entrance to the hole was above the water. The starling entered the hole and the flicker talked and tried to reason with the starling saying that he had made the nesting cavity and it was strictly for a flicker. Finally the flicker put his head in the hole and grabbed the starling by the scruff of the neck and hauled him out. Both birds fell into the stream. This procedure was repeated several times. Finally, the starling remained outside the hole and the flicker flew away. George says he is going back to see who won.—District Game Protector Elmer D. Simpson, Union City.

CONSERVATION NEWS



PGC Photo by Steve Kish

THE VALUE OF LAND MANAGEMENT PRACTICES is discussed here by the Game Commission's Northeast Division Supervisor Roy Trexler. Members of the Harvey's Lake Jeep Club listen to this talk as a part of their tour of State Game Lands No. 57 in Wyoming County in early June.

HIDE SALE INCREASES COMMISSION FUND OVER $5,300

The Game Commission recently sold 236 wild animal pelts to high bidders in various parts of the state for $540. These pelts were confiscated or otherwise acquired by game protectors in the pursuance of their duties during the past 12 months. A breakdown of skins sold shows: bear, 14; deer, 43; elk, 1; beaver, 18; mink, 34; muskrat, 37; otter, 6; red fox, 55; and gray fox, 28.

Earlier this year the Commission completed the sale of 2,229 deer hides to the highest bidder for $4,771.20. These were hides game protectors had collected and preserved since last autumn.

The revenue from these sales has been deposited in the Game Fund to help finance Pennsylvania's wildlife management program.

Another Duck Takes Long Flight

Report of the Game Commission raised duck that flew the greatest distance eastward from its liberation point in Pennsylvania, recently was received in Harrisburg. This duck, a mallard wearing leg band No. 92658, was shot last season in the vicinity of Fortune Bay, Newfoundland. It was released in McKean County on June 21, 1961, by Game Protector John Putnam.

Ducks making the longest flights in other directions were as follows: to the west, a mallard band recovery from Washington State; to the north, many ducks reported from Canadian provinces; to the south, a blue-wing teal raised at the State Wild Waterfowl Farm in Crawford County and bagged on the Island of Jamaica in the British West Indies.

Executive Director Attends NRA Convention

The annual Convention of the National Rifle Association, held in Washington, D. C., early this year, was the largest to date. Over 9,000 registered for the meetings and over 1,300 persons attended the annual banquet. Executive Director M. J. Golden, a Director of the National Rifle Association, reports that representatives of many states related the development of greater interest in firearms and hunter safety training programs. Over one million young people have been trained in this program.

Various Directors of the National Rifle Association expressed considerable concern about the trend toward further restrictions on the ownership and use of firearms and indicated the need for continued vigilance and opposition to any proposed restrictive legislation.

President Pledges Strong Conservation Program

President John F. Kennedy voiced his determination to have "this administration and government strongly identified with conservation" in his remarks before the White House Conference on Conservation, held in Washington May 24 and 25. The President appeared before the several hundred delegates and observers at the historic meeting—the first in 50 years—which featured presentations by members of the Cabinet, Senators, Congressmen, and State Governors.

Kennedy told the conference that he viewed the meeting "as a step forward in the long journey, which fortunately began long ago and will continue through all of our lives." In addition to the contribution of conservation to the people's welfare in this country, he said, our work can "emphasize to the people of the world the benefits that can come to them through the management of their resources."

He viewed present national opportunities as those involving the application of scientific discoveries to resources use, like in the conversion of saline to fresh water, and the development and use of the immense protein resources of the seas. "Harnessing science to conservation," he said, "is going to be the great achievement of our day."

He also expressed the hope that the nation "would move faster in the traditional phases of conservation," and he cited the wilderness bill, presently before the House Interior and Insular Affairs Committee in the form of S. 174 and similar House bills, the proposed land conservation fund, and seashore recreation areas as examples.

"Money spent wisely now," he said, "would be a great economy for us and a benefit to those who come after us."



NEW BUREAU OFFICIALS TAKE OFFICE. . . . Three top officials of the new Bureau of Outdoor Recreation were sworn in Friday, June 15, 1962, at the Department of the Interior in Washington, D. C. Administering the oath of office, left, is Floyd A. Dotson, chief clerk of the Department. Secretary of the Interior Stewart L. Udall looks on. Being sworn, left to right, are John F. Shanklin, assistant director of the new Bureau; Edward C. Crafts, director; and Lawrence N. Stevens, associate director. Crafts formerly was assistant chief of the Forest Service in the Department of Agriculture. Stevens for many years has served with the Department of the Interior and for the past two years has been deputy director of the Outdoor Recreation Resources Review Commission. Shanklin has worked in Department of the Interior resource-conservation programs since 1933.

BOOK NOTES . . .

Forest Service Offers New Booklet on Camping

Memorial Day, May 30, was the official opening date of all 5,200 camp and picnic grounds on the National Forests for the summer, and the U. S. Department of Agriculture has issued a camping booklet to give people the low-down on places to go and what to expect.

The booklet, CAMPING THE NATIONAL FORESTS—AMERICA'S PLAYGROUNDS, covers all the pleasures of outdoor camping from the aroma of campfire coffee and frying brook trout at breakfast through what to see and what to do during the day.

Basic rules for camping are emphasized, and campers are requested to be careful with fire and to leave camp and picnic grounds clean.

A lifetime of camping is suggested in the booklet, which points out that every transcontinental highway in the country passes close to campgrounds in one or more of the 154 National Forests and 18 National Grasslands.

These campgrounds offer a variety in size and setting that appeals to all. They may be located high on a mountain pass, beside a tranquil lake, or in the heart of a desert.

Every National Forest campground meets certain minimum standards. These are listed and discussed in the booklet so the novice camper knows what to bring and what is furnished. It gives special tips to the back-packer who likes to leave the beaten track and make camp where the day ends.

The booklets are available from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., for 20c each.

Wild Turkeys Survived Winter Almost Without Loss

Pennsylvania's wild turkey population again last winter displayed its ability to survive deep snows and low temperatures without appreciable loss. Despite an apparent shortage of such standard foods as beechnuts, acorns and cherry pits this hardy game bird came through the winter in excellent physical condition. Given a break in the weather during the critical nesting and brooding season this spring, the Game Commission anticipates a good supply of these birds for the 1962 hunting season.

The failure of such mast-producing trees as oak, beech and wild black cherry does not necessarily indicate a complete lack of natural winter food for wild turkeys. This resourceful bird will and does eat almost anything in the line of seeds and fruits, green vegetation and insect life. Even during the coldest weather and deepest snows, nonfreezing springs and spring runs provide turkeys with an abundance of succulent roots and tubers. Also, turkeys find animal foods, including aquatic insects and their larvae, crayfish, snails and earthworms, in these open wet areas.

Due to this ability of wild turkeys to take care of themselves and find winter food under most normal weather conditions, extensive well-designed winter feeding programs are justifiable only during prolonged periods of deep-crusted snow or severe ice storms and extremely low temperatures.

Winter Kill of Deer Was Low

Only about 1,000 deer died in Pennsylvania last winter due to malnutrition and the rigors of winter, recently compiled Game Commission field reports disclose.

This comparatively low total is considered exceptional in view of these circumstances: 1. Almost complete failure of the mast crop, including acorns and beechnuts which are nourishing fall and winter fare. 2. Several periods of extremely cold weather, which lowered the animals' vitality. 3. The carryover of deer following the 1961 hunting season was greater than after the previous one, thus increasing the pressure on the remaining food supply.

Credit for cutting browse is due sportsmen's clubs, state and federal agencies and all who contributed toward the well-being of the whitetails during the period food was in short supply. Through the cooperation of Department of Forests and Waters and Allegheny National Forest personnel the Game Commission's food and cover crews, outdoorsmen, Boy Scouts and others were permitted to cut quantities of browse on these public lands, and on State Game Lands.

In accordance with the provisions of the Game Law, all of the funds derived from the sale of antlerless deer licenses have been used for cutting to provide deer browse.

The deer mortality in Pennsylvania last winter was very moderate compared to more severe winters with losses of 3,000 to 5,000 or more deer.

CONSERVATION DAY at the Game Commission's Ross Leffler School of Conservation near Brockway saw the student officers play host to Brockway sixth graders. Various phases of conservation were taught with each student officer taking a part in the program. It was agreed that the event was educational for both the school children and the officers.

PGC Photos by Bob Parlaman





Deer Kill by Vehicles Continues High

Game protectors reported 781 deer killed by vehicles in Pennsylvania during the month of May this year—a record high for the month. The known deer mortality during the first five months of 1962 totals 3,145, which is also a record for the January-through-May period in recent years, as shown by the following:

January Through May	Deer Killed By Vehicles
1958	2,662
1959	2,198
1960	1,907
1961	2,775
1962	3,145

Though the deer kill by vehicles is not a true barometer of the state's whitetail population, it does indicate that the deer have not been "exterminated" by antlerless deer seasons as sometimes has been alleged. However, the large number of deer mortalities on highways does indicate the need for driver caution toward reducing the number of deer-vehicle collisions. This problem is not restricted to the "big woods" areas of Pennsylvania. In fact, it is more serious in some counties of heavy human population. Drivers of highway vehicles should always be particularly alert for deer during the dusk-to-dawn hours, the period when the animals are more likely to be "on the move."

Changing Your Address? Don't Forget GAME NEWS

The Post Office will not forward copies unless you pay extra postage and we cannot replace lost copies. SO PLEASE . . . at least six weeks before the first issue to go to the new address, send us your name, new address including postal zone, and your old address. Mail to GAME NEWS, Pennsylvania Game Commission, Harrisburg, Pa.



PGC Photo by Paul Glenny

FFA STATE WINNER of the 1962 Wildlife Habitat Improvement Project, Lynn "Tim" Werner receives a check for $125 and a hand shake from District Game Protector Joseph Leiendecker of Berks County. Tim, who lives in Mohnton and attends Governor Mifflin High School, is flanked on the right by his Vo-Ag instructor Russell Ruble.

Water Pollution Needs Mount

The number of communities with inadequate or no sewage treatment facilities continued to mount last year, the Wildlife Management Institute reports. As of January 1, sewage treatment needs were not being met in 5,290 communities—an increase of 163 over the previous year.

This occurred in spite of the fact that nearly one-third more municipal sewage treatment facilities were constructed in 1961 than any earlier year. The pollution abatement needs of today's growing population and industry continue to outstrip record rates of sanitary plant construction. Last year, about $560 million worth of construction was undertaken by U. S. cities, and about $2.1 billion more in new construction is needed.

Cities can receive federal aid amounting to 30 per cent of the cost of building a sewage treatment plant, up to a limit of $600,000 under the Federal Water Pollution Control Act. By joining together in a single project, cities may share up to $2.4 million in one grant. Federal construction grants for pollution abatement are stimulating $5.50 in municipal investments for every $1 of federal funds provided.

Commission Personnel Active At Northeastern Wildlife Conference

Pennsylvania Game Commission personnel were much in evidence at the recent Northeastern United States Wildlife Conference held at Montecello, N. Y., May 13 to 16.

Game Division Chief Harvey Roberts was chairman of the Small Game Session and a paper on the Conemaugh Cottontail Study was presented there by Game Biologist Ken Gardner.

Executive Director M. J. Golden served on the nominating committee for the Northeastern Association of Game, Fish and Conservation Commissioners, an organization within the Wildlife Conference. Director Golden was also named chairman of the Northeast Dove Advisory Committee while Harvey Roberts was made chairman of the Northeast Dove Technical Committee.

Assistant Chief of Law Enforcement Hayes Englert was voted a lifetime membership pending retirement within the next year.

Other Commission personnel present were G. L. Bowers, T. F. Bell, R. H. Shaver and W. C. Richter.

WILD FRUITS *(Answers from Pages 32-33)*

Hints on Using Wild Fruits

1. *Hazelnut* — Kernel within thin shell is delicious when eaten raw.
2. *Elderberry*—Eat raw or make into a fine jelly.
3. *Huckleberry* (Blueberry) — A sweet berry that can be eaten raw, with or without cream and sugar. Excellent for pies and muffins. To make Huckleberry Muffins, mix together: ½ cup butter, 1 cup sugar and 1 egg. Then add: 1 cup sweet milk, 2½ cups flour, 4 tsps. baking powder, ¼ tsp. salt, 2 cups blueberries. Mix well, then fill muffin tins about half full with batter and bake about 15 minutes.
4. *Chestnut* — Peel paper thin shell and eat raw, or roast on warmed rocks, or stove hearth. Also boil in salted water. Diced chestnuts are also excellent to mix with stuffing for fowl, especially grouse and ringneck. Are delicious when mixed with scalloped potatoes.
5. *Grape* (Fox Grape) — Eat raw or make into a wonderful jelly.
6. *Walnut* — Crack hard shell and eat kernel raw, or use as flavoring in cakes. Use cracked kernels also as topping for ice cream. Also mix crushed walnut kernels with cream cheese and olives for a sandwich spread.
7. *Raspberry* — Eat this berry straight from the bush, with or without cream and sugar, or with breakfast cereal. Or try these in a custard pie made by lining the bottom of a crust with 1 pint of raspberries. Then take 2 eggs, ½ cup of sugar, 1 tsp. of all-purpose flour and beat together and add enough milk to fill the pie.
8. *Strawberry*—Eat raw, with or without cream and sugar. Use with short cake, with ice cream or make into jelly or preserves.
9. *Hickory Nut* — See walnut.
10. *Blackberry*—A prized food. See raspberry suggestions.

Wildlife Conservation Stamps

Five kinds of migratory waterfowl are featured in the current series of wildlife conservation stamps being distributed across the country by the National Wildlife Federation. This year's emphasis on waterfowl and wetlands ties in with other education activities, including the National Wildlife Week theme designed to preserve waterfowl habitat to help assure abundant waterfowl populations for the present and future.

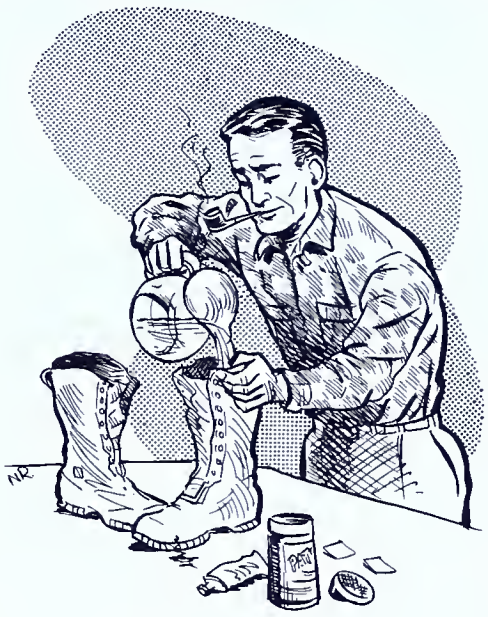
Painted in four colors the stamps feature paintings of the common goldeneye, black duck, Canada goose, American widgeon and mallard. Arranged in sheets of 50, the stamps were painted from real-life settings and can be used as mounted decorations and album collections, as well as on correspondence and place cards.

Contributions received from the wildlife conservation stamps help finance education programs of the National Wildlife Federation. The Federation is the nation's largest conservation organization, having two million members in affiliated organizations which are active in every state.

ANSWERS TO THE QUESTIONS ON PAGE 6

1. Its edible tubers furnished them with important winter food.
2. False. Unlike the common milkweed, the swamp milkweed is a slender, branched plant.
3. Three.
4. From the fancied resemblance of its flowers to a turtle's head.
5. Deep golden yellow.
6. No, its name refers to the fringed lower lip of its flower.
7. To the arrowhead shape of the leaves.
8. False. It frequently grows in scanty deposits of soil on rock ledges and gravel bars.

TIPS FOR HUNTERS



BOOT REPAIR

Pinholes or seam seepage in boots need not be dreaded if a few simple repair procedures are followed. To locate the puncture, dry boots thoroughly; fill the inside of the boot with water and the seepage will spot the hole outside. Circle the spot with a wax crayon for repair later. Rubberware can best be dried by opening and hanging upside down in a heated room. *Reverend George L. Harting*

Fiscal Bounty Report

The Pennsylvania Game Commission reports that it paid a total of $116,458 in bounty claims during the 13-month fiscal year of 1961-1962. The 7,826 separate claims totaled payments on 8,951 gray foxes, 18,406 red foxes, and 1,406 horned owls.

These figures for this year's unique 13-month period are larger than last year's 12-month total of $96,462 paid to 6,395 separate claims on 7,586 gray foxes, 15,502 red foxes and 1,222 horned owls.



PGC Photo by D. L. Batcheler

THE QUAIL WHO OWNS this nest has double duty when she incubates five pheasant eggs in addition to her own 17 eggs. This unusual nest was found by Mrs. F. E. Williams at the edge of an asparagus patch at her home in Dauphin County. It is presumed that the pheasant laid the eggs there while the quail was off feeding or perhaps the pheasant just chased the quail off when she was ready to lay an egg.



PGC Photo by Steve Kish

THIS GROUSE COMMITTED SUICIDE when he took a power-dive into the side of this house owned by Michael Hertchick of Pike County. Believed that the wood must have been in poor condition it was discovered that this was not the case at all. The velocity of the flying bird must have been very great.

Susquehanna County Sportsmen Sponsor 9th Annual Essay and Poster Contest

The Ninth Annual Lynn Rosenkrans Memorial Essay and Poster Contest climaxed in Susquehanna County with the awards presentation on April 28. The ceremony was the highlight of the Susquehanna County Federation of Sportsmen's Clubs banquet at Mountain View Joint School at Harford.

Miss Janice Fiore of Montrose Consolidated Schools won first place in the Poster category and John Karlnak of Mountain View Joint Schools took top honors in the Essay Contest. These two winners each received Lynn Rosenkrans Memorial Conservation Contest trophies and engraved wrist watches.

Other winners in the poster contest were: second place, Gary Michaeletz, Montrose; third place, Rosalie Howell, Montrose, and honorable mention, Ronald Petty, Elk Lake.

Second place essay winner was Jo-Ann Mazurkievicz, Mountain View; third place, Mary Korosec, Forest City, and honorable mention, Barbara Sturek of Blue Joint Schools.

The memorial contest headed this year by officers of the Federation, John Hubbard and George Campbell, originated nine years ago by Lynn A. Rosenkrans, Conservation Education Assistant in the Game Commission's Northeast Division. Mr. Rosenkrans died before the completion of the first contest. Therefore, the Susquehanna Federation has since carried on the work of this successful Conservation Contest and named the project in his memory.

Deerskin Used in Hospital

Tioga County District Game Protector Duane J. Moore, of Mansfield, reports that a piece of deerskin with the hair on helped a patient with a broken neck in the Wellsboro Hospital. The deerskin was needed for protection on the neck when the large plastic collar was put in place.

HUNTER SAFETY EDUCATION

Hunter Safety Through Art

Students of the sixth grades of the Erie School District are studying and making a campaign on safety through art. A lecture on firearm safety is given through TV, slides, or by individual instruction with the ten commandments of firearm safety as a guide.

A thirty-minute program on Firearms Safety Through Art was presented over WICU channel twelve for this study. The ten commandments of gun safety were presented by Game Commission Conservation Information Association. Bob Parlaman of the Northwest Division has been working with Dr. Frank Anthony on his firearms safety study in the schools.

The people responsible for making this program a success and a first in hunter safety education are Dr. Joseph Zipper, Superintendent of Schools of Erie; Dr. Gertrude Barber, Asst. Superintendent; George Deimel, Art Coordinator and Director of School Television programs for Erie School District; and Lowell C. Drake, Coordinator of Health, Safety and Physical Education of the school district.

The drawings were exhibited at the Erie Moll Shopping Center in Erie for all to take a lesson in hunter safety.

Pa. Game Commission
Hunter Safety Certified

To Date:
Instructors—3,699
Students—43,069



PGC Photo by Bob Parlaman

ART AND GUN SAFETY were combined recently in the Erie School District resulting in a successful hunter safety education course there. The responsible committee (left to right) are George Deimel, Art Coordinator of Erie Schools; Mrs. Laura Carter, Erie Chamber of Commerce; Dr. Joseph Zipper, Superintendent of Erie Schools; Dr. Gertrude Barber, Assistant Superintendent; and L. C. Drake, Health, Safety and Physical Education Coordinator.

Palmyra Sportsmen Hold Instructors Course

The Palmyra Sportsmen's Association acted as hosts for a Hunter Safety Instructors Training Course held at their club grounds Saturday, May 5, in Palmyra.

District Game Protector Perry Hilbert of Lebanon County coordinated the program in which nine different sportsmen's clubs and organizations were represented from Lebanon, Berks and Dauphin Counties.

The 21 instructors certified. These instructors will, in turn, certify qualified men and women 21 years of age or over as hunter safety instructors.

Palmyra club members gave the instruction for the 8-hour course while their wives prepared lunch making it a complete volunteer effort.



August Brings the Pulsing Sounds Of Nature to the City Street...

Winged Orchestra in the Boas Street Woods

By Marian N. Baker

THE MIDDAY sun beats down on the macadam and concrete of the Boas Street Woods; the thermometer at the bank around the corner registers 91°. We natives are inclined to complain a little, just as we did last winter when it was eight below zero.



Temperatures affect us all to a certain extent—we feel better under some conditions than others—although, just what they are, to hear us talk, would be hard to discover. However, there is one point on which we are all agreed: namely, it is not really the heat but the humidity.

The insect population, these hot August days and nights, seems highly pleased with things as they are. Their life spans are geared to the temperature and their representatives work in shifts around the clock.

Now in August we are more conscious of the night shift than at any

other time since they, reversing the maxim for good children, are heard but not seen.

Toward evening the last pulsing calls of the cicadas linger on in the gathering dusk. These large awkward insects, sometimes called "locusts," produce their songs by vibrating thin membranes at the base of the abdomen. The call is strident and harsh and continues from fifteen to thirty seconds; only the males sing. If you look at the place from which the sound comes you may detect the musician as he makes a slight change in his position after the music ceases; or as is more often the case see him whirl away in great arcs on his membranous wings.

A Weird Looking Creature

The cicadas are formidable looking creatures, measuring an inch or more in length with triangular faces and bulging eyes, but with all this they are perfectly harmless. Sometimes one hapless creature will fall victim to an English sparrow and then there is a great commotion sometimes ending in death for the cicada and again in disappointment for the sparrow.

The cicadas that sing in the heat of the day are a different species from those that sing just at twilight—judging from their orchestrations. The latter produce a grinding pulsating noise that begins very slowly, works up to a climax and tapers off. The one in our tree seems to keep its motor idling between calls with a low buzzing sound that carries on until the call is repeated. Whereas, with the daytime singer the song is higher pitched and the pulsations are more rapid, although they, too, rise to a climax and taper off.

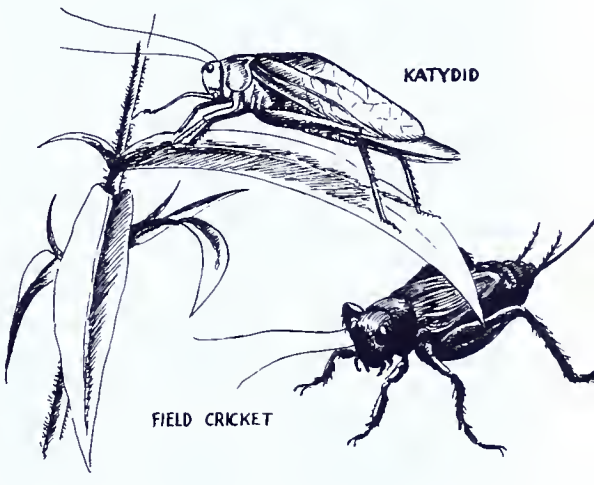
Darkness Brings a Change

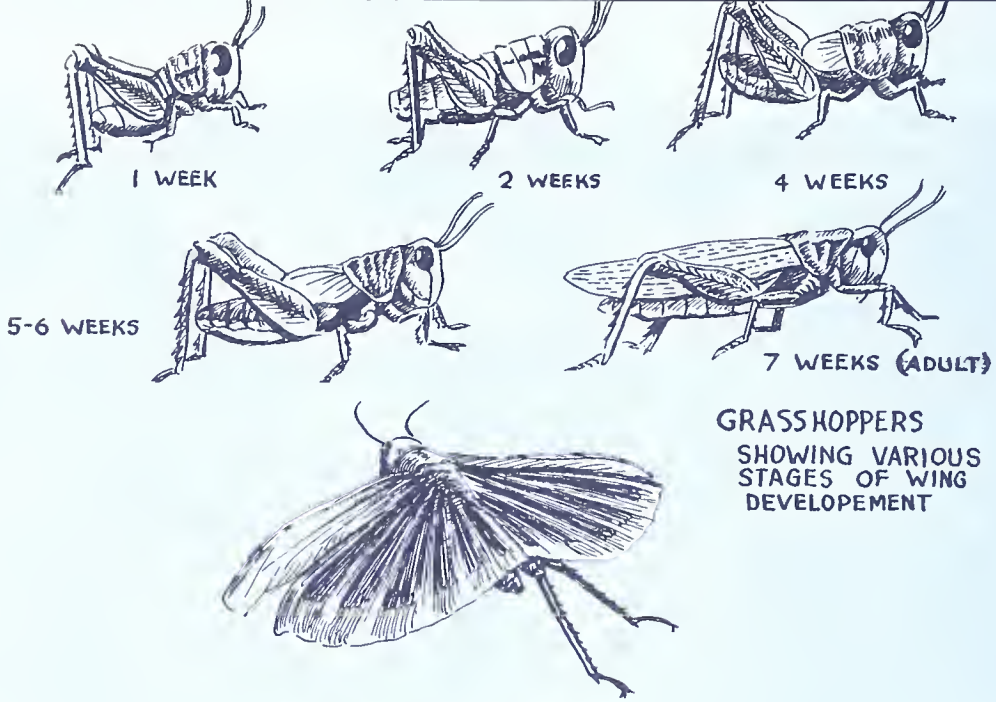
When darkness comes to the Boas Street Woods the snowy tree crickets begin tuning up their instruments; you hear them start, a lone member here another one there. For a while in the early part of the evening everything seems to be at sixes and sevens. Then for some curious reason, as the night advances, the snowy tree crickets all over the Boas Street Woods seem to be chirping in unison. It is the rhythmic heartbeat of a hot summer night, with a far away and long ago quality like that of the notes of the spring peepers in a wayside pool.

Temperature Crickets

These crickets are doubly interesting in that from their synchronized chirping you are able to get a close approximation of the temperature at the moment. For this reason they are sometimes called the temperature crickets. Scientists tell us that if we count the beats of the temperature cricket orchestra for a period of fifteen seconds and add 40 to the result we will arrive at or near the temperature in degrees Fahrenheit. This is an interesting little experiment for a summer evening.

You will have difficulty finding a temperature cricket as they secrete themselves in the bushes and low trees. Look for a delicate, pale green insect three-fourths of an inch long, with good jumping legs, long hair-like antennae and filmy green wings, which when folded lie flat on the back protected by short and delicate wing covers. They produce their rhythmic chirps by rubbing the sharp edge of





GRASSHOPPERS
SHOWING VARIOUS
STAGES OF WING
DEVELOPEMENT

one wing cover over a file-like structure on the underneath side of the other.

Heard above the background music of the snowy tree crickets are the clicks, chirps and trills of individual night revelers. For many nights I tried to see the soloists, that for want of a better name, I called the "clickers." Their call was a series of metallic clicks given in rapid succession. We heard the clicking first on one side of the street then on the other. Since it always came from high in trees, I almost despaired of ever seeing them. Then one warm evening a lone member elected to call at our window. It walked along the smooth surface of the windowpane, stopping now and again to make the rapid clicking sound. True I could see it only from beneath and with difficulty along the side, but I recognized it for what it was—a long-horned grasshopper, a relative of the katydid. It was large, over an inch in length not counting its great jumping legs and its long hair-like antennae, which were many times longer than the body. The feet were four jointed ending in a claw with small pads on either side of it. The wing covers held close to the sides of its body and meeting in a roof-like edge above the abdomen looked like two green leaves. The whole inseet was a beautiful pale green.

The clicking was produced when the flange of one wing cover, just back of the thorax, rasped quickly over a file-like structure on the other. Underneath the sturdy protecting covers are the true wings with which the creature flew away into the night. Now when we walk in the Boas Street Woods in the evening and hear the antiphonal clicking we feel that one mystery has been solved.

Day and Night

The common ground cricket plays both day and night and its musical chirps together with the little musicians themselves are familiar to everyone. They are not as shy as some members of the orchestra and can often be seen sitting by their doorways, a stone or a burrow, fiddling away. If you approach too close the music ceases abruptly and a dark brown body slips away through the grass or retreats into its burrow. If you wait patiently the chirping will begin again and you see the move-

ments of the hard wing covers which rasp one upon the other so rapidly that they create a blur. The ground cricket has no wings like the snowy tree cricket and the long-horned grasshopper and is not able to fly. The male crickets are the musicians. The female can be distinguished from the male by the presence of her long ovipositor which she uses to deposit her eggs in the soil. Both the male and the female have two prongs or cerci protruding from the end of the abdomen; the female with the addition of the ovipositor seems to have three tails.

A Short Beeper

The trills in the Boas Street Woods are produced by still another tree cricket which looks much like the snowy or temperature cricket but produces its music in short beeps and trills like some insect telegraphic code. I found one of these pale green musicians on a grapevine. When it prepared to sing it crawled to the margin of the leaf and with its head and front legs bent down and extending over the edge it raised its green wing covers at right angles to its body and rasped the scraper of one against the file of the other so rapidly that the wings blurred. It, like its relative the temperature cricket, is able to fly as well as jump.

Occasionally a dusky insect with powerful jumping legs leaps up from the grass along the curb and flies to the hard surface of the macadam road where it blends so nicely with its surroundings that it is difficult to locate. This is one of the many short-horned grasshoppers. The word, horn, refers to their antennae which are very short in contrast to those of their cousins, the long-horned grasshoppers. Their faces are long and solemn looking. If you pick up one of them, it shows its displeasure by exuding a brown liquid from its mouth. As children, we called this spitting tobacco.

The short-horned grasshoppers which I observed were not contributing to the daytime orchestra of which they are members. However, they are capable of producing lisping sounds by rubbing the back legs together or a combination of legs and wings depending upon the species to which they belong.

All of this orchestral music seems to indicate that there must be appreciative ears to hear — as indeed there are. These ears appear in the most unusual places. Those of the ground cricket, the long-horned grasshopper and the tree crickets are on the tibia (near the elbow) of the front legs, while the ears of the short-horned grasshoppers are at the base of the first abdominal segment. You can find the disc-like spots without the aid of a magnifying glass.

When the insect music bursts upon our ears in late July and August we begin to wonder from whence these invading hosts have come and how they have marshaled their forces. The truth of the matter is that they have been here practically all summer, but only now have they reached their maturity. When crickets and grasshoppers hatch from the eggs which were laid the year before they look like miniature replicas of the adults with the exception that the winged species do not have wings. They grow by a succession of molts in which they shed their skins (exoskeletons) as they increase in size until with the last molt they appear as full grown adults complete with wings. It is then that they make their presence known in the winged serenades of the males.

Cold Nights End It

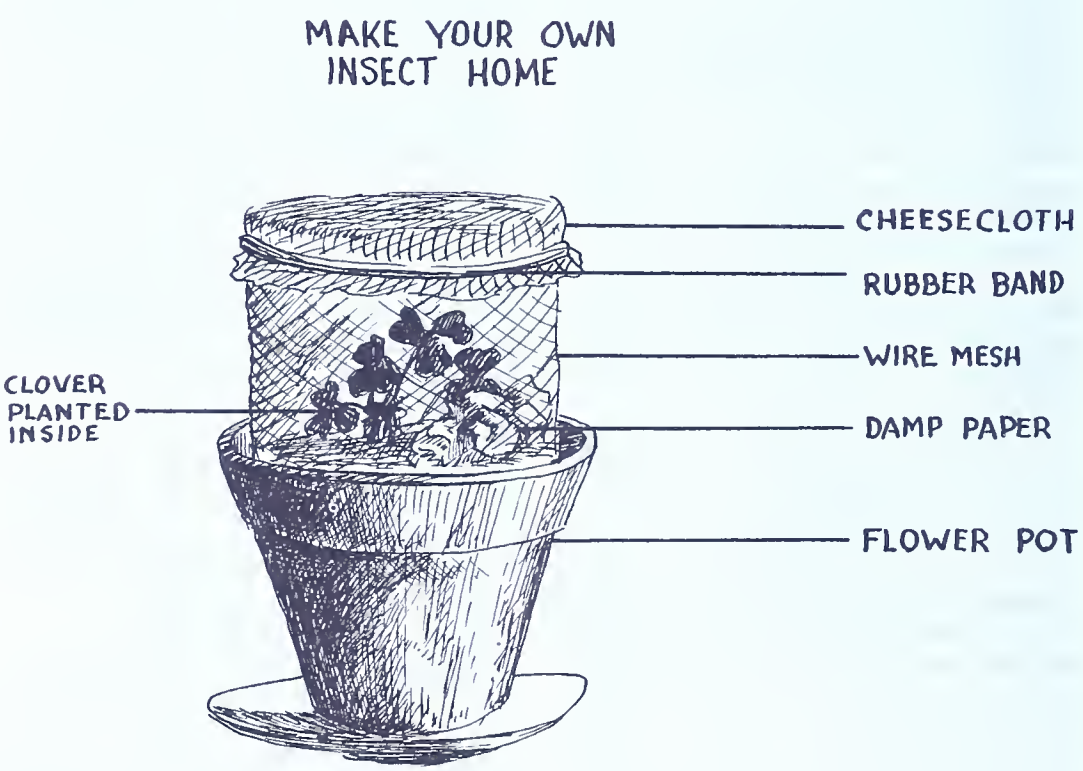
During the course of the warm summer days and nights they mate and lay their eggs in the ground, on leaves or in twigs according to the nature of their species. With the coming of colder nights the music decreases in tempo until finally, after a killing frost, it is heard no more. The little musicians have grown stiff with cold and their instruments are put away for the last time. All that re-

mains of the vast hosts of the crickets, the grasshoppers and the cicadas are the eggs that await the warmth of another year.

SUGGESTIONS

1. With the aid of a flashlight, go out at night and track down individual insect musicians. Follow the sound cautiously. If the music stops wait until it begins again. Most insects will continue singing even in the glare of a flashlight but they are very sensitive to vibrations. You can cause whole sections of the katydid chorus to become silent by placing your hand upon the trunk of the tree where they are located.
2. Keep a pair of crickets for pets. Catch a male and female cricket. Make a cage for them of a flower pot in which a plant, such as a grass or clover, has been planted. Over this place a cylinder of wire mesh or a glass lantern chimney; cover the top opening with cheesecloth. Keep the ground moist enough to encourage the growth of the plant. Feed the crickets with bits of apple, banana, lettuce and bread. Place a bit of moist crumpled newspaper in the cage to provide water, food and a place to hide.
3. Cornell Sound Records.

Recordings of wildlife sounds including the "Songs of Insects" can be secured from the Cornell University Records, a division of the Cornell University Press, 124 Roberts Place, Ithaca, N. Y.



HOMEMADE INSECT HOMES are easy to construct with a flower pot containing a plant or grass capped with a cylinder of wire mesh or a glass lantern chimney; cover the top or opening with cheesecloth; water the plant to keep it growing and feed the crickets or whatever you have in the cage with apple, banana, lettuce, and bread. A little crumpled newspaper in the corner will provide water, food and a place to hide.

BOW FISHING

By Tom Forbes

Photos by the Author



CARP IN VIEW as Dick Shirley and Chuck Palmer prepare to loose arrows in Presque Isle Bay near Erie. Note the reels used to hold the fishing line attached to the arrow. Mrs. Shirley handles the boat for a better shot.

CARP, GAR and suckers are the species of fish which may be taken with the long bow and arrows in the waters of the Commonwealth. In streams not stocked with trout there is no closed season on the sport of bow fishing. The bowman is required to purchase a fishing license in order to enjoy this sport. In waters stocked with trout all fishing including bow fishing is prohibited from March 14 to the opening date of the trout season. Listed in the digest of the Fish laws that is issued with a fishing license is a list of the streams in the Commonwealth that are open to fishing all year. During this period the bow fisherman can enjoy his sport in the streams appearing on the open list.

The carp is not a native fish. It was introduced into the United States from Europe in 1877. The carp was originally a native of Asia and from there transplanted to Europe. In Germany and parts of the continent the carp is much valued as a food fish and is the object of important pond culture for the markets. Since its introduction the carp has been so widely distributed that now it is found in practically every state. Carp average from 1 to 6 pounds, and catches of 15 and 20 pounders are not rare. Weights as high as 50 pounds have been reported in this country.

The carp is usually found in the rivers, streams, and lakes which have mud bottoms. It likes to root up aquatic plants and feed on tender roots. In rivers and streams it prefers the quieter stretches. Carp move into the shallow water in the spring to spawn. After the eggs are deposited the parents leave them with no protection. Female carp are unusually prolific, and one weighing around 20 pounds will produce as many as 2,000,000 eggs in a season. Contrary to popular opinion the carp is relished as a food fish. More than half a million pounds are harvested by commercial fishermen in the Mississippi and Missouri Rivers annually. The carp however is not a welcome addition to waters which are populated by the game fishes sought by the sportsmen. It is extremely difficult for other game species to compete with the carp. Their habit of rooting on the bottom stirs up silt which is deposited on the eggs of other species and renders them





A SUCCESSFUL SHOT produces a goldfish, a species of carp common in Presque Isle Bay.

infertile. Unless their numbers are reduced they will gradually become the dominant species in a given body of water. The goldfish is a closely related cousin of the carp and has many of the same habits and characteristics. Their use as bait fish is unlawful in the Commonwealth in order to prevent further distribution of this undesirable species. Where they have been inadvertently introduced, their removal by the bow fisherman is highly desirable. Bow fishing for carp is also beneficial to other game species because it helps keep the carp population under control.

Fishing for Gar

The gar which bowmen are permitted to take with the bow and arrow fortunately is not widely distributed in Pennsylvania waters. Three species are present to some extent in our waters; the longnose, shortnose and spotted gar. Gars have no value as sports fish except to the bow fisherman and are valueless as food fish. They are a most destructive fish and prey on any smaller fish, including game fish. The scales of the gar are extremely hard, and appear to be covered with an enamel-like substance, which is so tough that it will turn the blade of a knife or deflect the tip of a fish arrow if struck a glancing blow. To some extent they are scavengers and will also take insects and crustaceans. They prefer warm, sluggish, or stagnant waters, and are usually found in muddy bottomed streams and lakes. During spawning season, schools of gar can be readily detected as they thrash about on the surface at the time the female is depositing the eggs. Their removal from any of our waters is beneficial to the other species.

Suckers Make Good Targets

Suckers are the third category of fishes that may be taken by the bowmen. They are found throughout the Commonwealth in the streams, lakes and ponds. Contrary to the other species we have listed they prefer clear water and in streams and rivers are usually found in pools and along the edges of the current. In the spring they congregate in large numbers at the foot of waterfalls and dams or below a constricted area of the stream where the increased velocity of the water has created a pool. Most of our good trout waters have a population of suckers. They spawn in the spring, and there is usually a definite upstream migration at this time. The spawning is done in the shallows or riffles which have a gravel bottom. The body of the sucker varies from a creamy white to a silvery white. During spawning season the color of the back of the male deepens, and a black lateral line appears on its sides, which is bordered by a broad pinkish stripe. A sharp eyed bowman can approach fairly close to the fish at this time and secure plenty of action.

All bow fishing tackle has one thing in common. It must be rugged to withstand the conditions under which it is used. A wide variety of tackle is available. A fiberglas shaft is preferred on account of its durability and resistance to the rough treatment it receives. There are a number of commercial fishing heads available. In an emergency you can sharpen a field

point, drill a hole through the ferrule and fit it with wire barbs. Drill another hole through the ferrule and shaft and attach a wire leader approximately seven inches long. If the line is attached directly to the head there is the possibility that it will fray and break when you are retrieving your fish. To prevent line drag on the head of the arrow it is customary to drill a hole in the shaft just forward of the arrow nock and thread the line through this hole. In addition some bowmen tape the line to the shaft at the midpoint with waterproof tape. Actually at the close ranges at which carp are shot no fletching is necessary on the arrow. On long shots rubber fletching is preferred. Feathers immersed in water become matted and useless and plastic fletching is scarcely durable enough to serve well.

To complete your outfit you require about 50 feet of 70-pound test line and a bow reel of a simple design on which the line may be easily wound while the arrow is being retrieved. With the open sight window of the modern bow the bow reel is generally taped in front of the grip. One well proved reel resembles the top of a milk can and the handle is gripped with the bow hand. One advantage claimed for this reel is that once you have tied into a carp, gar, or sucker you can lay the bow aside and use both hands to play the fish.

Practice First

You should practice with this outfit before you seriously try for a fish. The heavy arrow and line drag will necessitate some change in elevation when you are sighting on your target and the heavy spine of the fiberglas arrow will require a correction in deflection or you will shoot wide of the mark. In winding the line on the bow reel start at the back and wind toward the front of the reel so that the line will flow freely from the spool. Do this carefully as a fouled line can bring the arrow flying back in your



A NICE CARP being retrieved from the shallow waters of Presque Isle where they seek cover in the aquatic vegetation of the bay. Chuck Palmer of Erie claims this one.

direction. It has happened and bowmen have been injured. Another safety device is to wear a glove on the shooting hand especially if you do not have an arrow rest on your bow. A gloved hand makes playing a heavy fish easier with less chance of line burns.

Make Fine Eating

No discussion of bow fishing for carp would be complete without exploring their value as food for the table. When properly prepared, authorities claim it is superior to many species which are regularly enjoyed by those who like a mess of fresh fish. Certainly any of our game fish cooked within a reasonably short time after they are caught are superior in texture and flavor to those purchased in the market. Carp does need special preparation or it will be bony and strong flavored. Carp two to three pounds in weight are best fried. They are prepared by skinning the fish and filleting it, removing a fillet from each side so as to eliminate the backbone and fins. The dark meat of the sides of these fillets is then removed with a sharp knife by making a shallow V-shaped cut and removing in one strip the dark flesh along the median line. This is imperative as it is this portion of the flesh that produces the objec-



IT TAKES A MARKSMAN to figure the actual position and register a hit on a goldfish. Dick Shirley can be proud of his catch in Presque Isle Bay.

tionable strong flavor. Score the fillets crosswise with a sharp knife, using strokes that go almost through and from an ⅛″ to ¼″ apart. Roll the pieces in flour and French fry in deep fat at 350 degrees. Actually a cooking thermometer is essential in any deep fat frying. If the temperature is too low the food will be greasy, and too high the outside will burn before the center is cooked. It you follow this process of preparing the fish, aside from the large rib bones all the small bones will be thoroughly cooked. The flesh of the carp is not as firm and flaky as that of pike or bass, but generally it is fine flavored. Even when taken from shallow ponds during the middle of the summer, carp will be found an excellent food fish and often more firm-fleshed than certain game fish taken from the same water. No one seems to tire of eating carp once the appetite for it is whetted. Bring home your catch.



PGC Photo by Harrison

A STEREOSCOPIC VIEW of an aerial photograph gives the author, Don Croft, a realistic interpretation of the forest types. This is an important step in developing a cover map.

From Terrain to Drafting Table...

COVER MAPPING

By D. L. Croft
Game Land Manager

WITH thousands of acres of our Pennsylvania countryside falling prey to the march of civilization, the hunting fraternity is being pressed harder each year to find open hunting land. The Game Commission is aware of this situation and is making every effort to provide open hunting territory for the hunter. One of the major programs of the Commission has been the acquisition of State Game Lands for public hunting grounds. Under this purchase program the Game Commission now owns over 950,000 acres of State Game Lands. This land has been purchased with the hunter's dollar to provide acreage for the sportsman's hunting recreation. The Game Commission's responsibility does not end with the acquisition of the land; it must, in addition, manage this land to provide satisfactory game habitat.

A great majority of our Game Lands now support forest growth in some stage of development. The wildlife inhabiting these areas is directly dependent on the natural vegetative growth for both food and protection. Since this vegetation is forest growth, it would seem to follow logically that wildlife habitat management on these areas should take some form of forest management.

In order to develop any management plan the first requirement is to know what is available to work with on each tract of land. To answer these questions the Game Commission is getting basic data by a cover mapping method utilizing aerial photographs in conjunction with field surveys. A preliminary reconnaissance is made

of the Game Land to determine the types, sites and tree sizes occurring on the area. Each possible combination of these variables make up a category. The various terms used in cover mapping are:

Type—A combination of tree species that require a separate method of management. In our cover mapping we are recognizing nine forest types.

Site—The growing conditions of a given area as dictated by the combination of soil, moisture, slope and exposure. We are using three site classifications.

Size Class—The range in diameter of the trees at breast height. Six size classes are recognized for our purpose.

Category—A forest stratum made up of all the areas of the same type, site and size class.

In classifying the Game Land into categories the following coding is used to record the data: First, capital letters in the code represent the type:

A—Mixed Oak Type
B—Northern Hardwoods
C—Scrub Oak
D—Aspen—Gray Birch
E—Oak—Hard Pine
F—White Pine—Hemlock
G—Hard Pine
N—Hardwood Swamp
K—Red/Black Spruce and Balsam Fir

Second, the site is represented by number:

1—Best sites, moist, well drained, fairly deep soils which usually occur in protected coves, along streams or in bottom lands.
2—Average sites, soils intermediate in moisture, depth and drainage and fertility and dry out for only short periods during the year.
3—Poor sites, shallow, rather dry stony or compact soils.

Third, small case letters represent tree size classes:

a—Large Sawtimber—12″ to 18″ and over
b—Medium Sawtimber—12″ to 18″
c—Small Sawtimber—12″ to 15″
d—Large Poles—8″ to 12″
e—Small Poles—6″ to 8″
f—Sapling—under 6″

For example, a code designation A2c would represent a mixed oak type, growing on an average site, with the trees having a diameter range of 12″ to 15″.

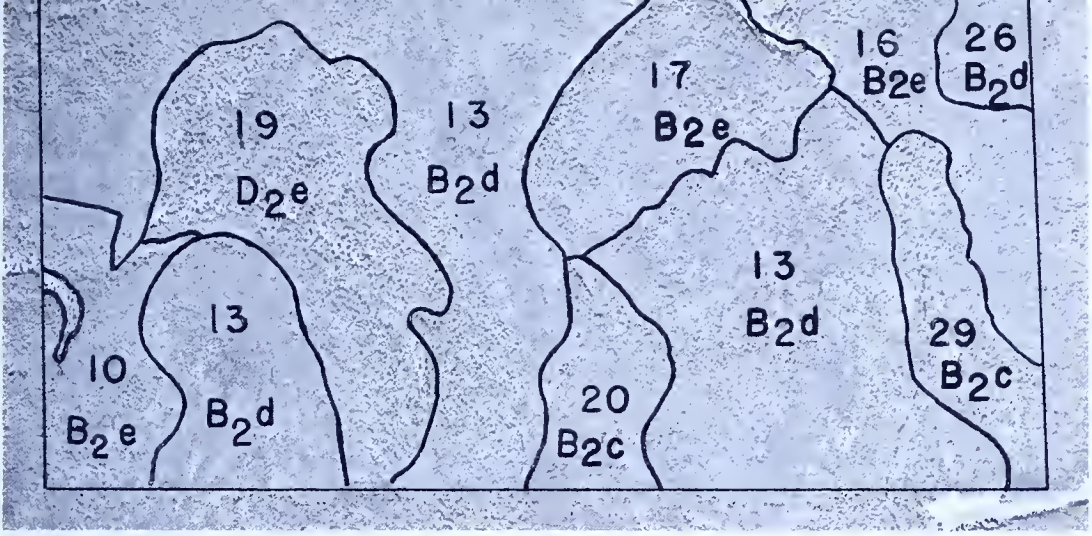
In the field survey phase of the cover mapping, photographs are taken into the field and a complete and intensive reconnaissance is made of the land. Field observations are made at as many locations as is possible and practical to cover the area completely. The data is then marked on the photographs with the appropriate code symbols. Every contrasting change in shading, tone or pattern that shows on the photograph is checked. Also, any changes that have occurred since the pictures were taken are noted. These include new roads, power lines, food plots, cut-over and burned-over areas.

Upon the completion of the field work, the photographs are studied



PGC Photo by Harrison

THE FINISHING TOUCHES are added to the cover map by Ralph Dengler in the drafting room. Here he uses a planimeter to determine the area of the various forest stands.



WITH THE NETWORK of field observations recorded on photographs it is possible to establish accurately the boundaries of homogeneous units of type, site, and size classes. These units are referred to as forest stands.

under a stereoscope for complete photo interpretation. With the network of field observations recorded on the photographs it is possible to establish accurately the boundaries of homogeneous units of type, site and size class. These units are referred to as forest stands. The stand lines are marked on the photographs in red ink, the cultural features are delineated in black and water courses in blue.

Upon completion of photo interpretation, the information is transferred from the photographs to a base map. Control points are established on both the photograph and the map. By coordinating these points, photographic details can be transferred with a vertical projector.

The completed timber cover map is the basis for our planning. All the land is classified, stands are coded and numbered. Roads, trails, food plots, and streams are shown. The area of the various stands is computed. By combining the area of all the stands having the same code, the total area for each category is obtained. With this complete information on the existing potential of an area, we have a basis with which to develop a management plan.

The production of wildlife and timber are compatible. Therefore, our management plans are designed for maximum forest growth and the greatest wildlife production. Management practices that will produce the most growth in trees of all size classes are used. The value to wildlife will determine the selection of tree species to be favored.

The available amount of various sized trees will dictate the kind and amount of cutting operations. The acreages in the different types will indicate where operations are needed to improve species composition.

Thus, habitat manipulation is a primary objective of a forest management plan designed for wildlife production. Application of these plans should result in the greatest possible sustained supply of wildlife and tree growth, improvement of species composition desirable to wildlife and regulation of cutting so that a sustained supply of wood products will be maintained and watersheds will be protected.

Cover mapping is therefore most important when viewed from the standpoint that each passing year demands more intensive management of our lands. The shrinking availability of privately owned hunting land puts an increasing burden on public land, particularly State Game Lands. Therefore, habitat management must be intensified to provide game populations that can stand up under ever increasing gun pressure.



PREPARATION FOR THE NATIONAL PISTOL MATCHES held at Camp Perry will be a repetition of this scene all over the state, as well as all over the nation. Shooter on the right is NRA Counselor Mike Rinaldi, tireless champion of this essential and thrilling sport.

Camp Perry, Here We Come

By Jim Varner

Photos by the Author

MANY of our readers are old shooters on the big Camp Perry, Ohio, Rifle Range. Others are comparatively newcomers with one to three years' experience, while literally hundreds of others seek the thrill connected with the National Tournament for the first time. Believe me, you will not be disappointed if you join the crowd of rifled-tube enthusiasts out there along Lake Erie's shallow beaches between Toledo and Sandusky. For the rifleman, there is nothing left to be desired—no, nothing at all. From the impressive lineup of targets to the evenings of shooters' entertainment, combined with the famous "commercial row," there is never a dull moment.

When indoor shooting closed last spring, the outdoor small bore rifle and pistol matches got under way. About the same time all other phases of big-bore rifle and pistol shooting appeared on the scene. So many courses are now available that a person has his choice, including the black powder events. You will find them all at Camp Perry, and gleaning from the many remarks I hear from shooters everywhere, I expect a regular exodus of pioneer National Match seekers chanting their theme song "CAMP PERRY, HERE WE COME."

For the youngsters who seek the Small Arms Firing School with the pistol, the dates are July 27 to 29; the Junior and Tyro School of Instruction

is August 6 to 9; the Small Arms Firing School for rifle, August 12 to 15. The experienced shooter who wishes to enter all events, the dates are July 27 to August 26.

Easy to Get There

The big range is easily reached by the Ohio Turnpike which traverses the northern part of Ohio only a few miles south of Camp Perry. The country is level, being only a few feet above the lake water level. For those who do not shoot, the area is rich in recreational opportunities, as well as historical lore. Only a few miles from the rifle range is Put-In-Bay, in the Bass Island group which was headquarters for Admiral Perry during the War of 1812-1814. He operated from a cavern on one of these islands. The battle of Lake Erie was won by him against a superior force but not until his flagship was sunk. A huge monument commemorates his victory.

For those who take off for Camp Perry this month, and others back home scanning the sports pages for scores of the top twenty in each event we hope you realize the magnitude of this "Grand-American" of the rifle and pistol shooting clan. Remember, the National Rifle and Pistol Matches, conducted each year with the approval of the Secretary of the Army, are held under the supervision of the National Board for the Promotion of Rifle Practice and in cooperation with the National Rifle Association. This year, as in previous years, the National Matches are being held on the Ohio National Guard range at Camp Perry from July 27 through August 26. Obtain your shooting schedule from the NRA.

Top Match in U. S.

The National Matches constitute the pinnacle of rifle and pistol competition within our nation. The shooters you will meet include not only the outstanding marksmen of all military services, but also the best civilian and police shooters. Competition includes events for NRA Championships with all three types of arms. There will be matches with the service rifle and service pistol for National Team and Individual trophies created by the Congress. Considerable additional data on this phase of all competition will be found in your program booklet.

Speaking further on magnitude of this event, the organizations involved in putting on the Matches of last year with its precision smoothness, were as follows: The Continental Army Command and Second Army who organized and conducted the Matches; Ohio National Guard, who made their famous range available and provided support for National Guard teams; Erie Ordnance Depot, provided logistics and supply support; U. S. Army Ordnance Corps, gave ordnance supply and service; U. S. Army, 1st Battle Group, 5th Infantry, 2nd U. S. Marine, and U. S. Air Force, provided range personnel; U. S. Army, 18th Airborne Corps, 10th Data Processing Unit, provided personnel and

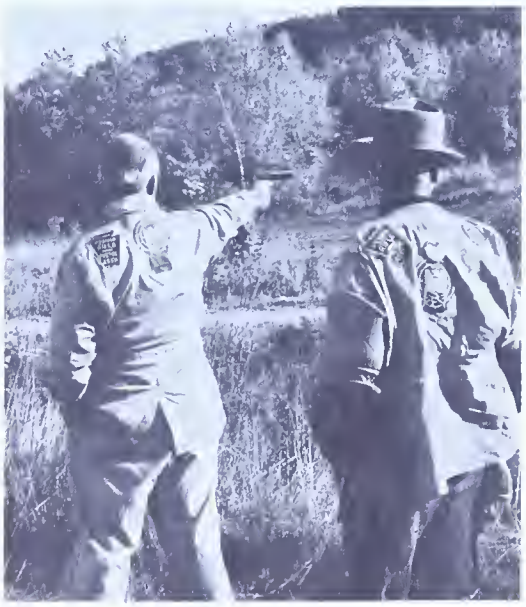


ANOTHER NECESSARY ACTIVITY which is enacted thousands of times before the exodus to the big national matches is pit detail for the big bore contestants.

equipment for statistical operation; U. S. Navy offered range electricians and statistical personnel; U. S. Army Infantry School, provided instructors for SAFS and the Junior and Tyro School.

The writer first shot on this range during the 1911 Matches. The range was a large one even then. Its growth has been tremendous during the last five years, due to the upsurge of interest in marksmanship. Dyed-in-the wool leaders of that early era like Townsend Whalen, George Chelsea, Winchester representative; Maj. John Hessian, also of Winchester; Capt. Casey, of Dupont, and Capt. Charles Winder, of 1,000-yard fame (mentioned April GAME NEWS), with many others have departed, but their names live on. They were all fine Americans and the best of sportsmen. Give them a thought now and then as you are upholding a tradition that must not perish. They were the interesting group I used to meet in P. J. O'Hare's concession on "Commercial Row" most every evening while shooting as a member of the old Iowa 54th Infantry Rifle Team in the National Matches. Frank Khars, recently with Remington, was another "real-one" who cannot be overlooked. There are a few things you may like to know as a beginner. You will find free maintenance and repair services on all military-type caliber 45 pistols, 30 cal. rifles and 22 cal. rifles used in the Junior and Tyro School. This service is furnished from Ordnance vans located on the range. Small Arms Firing students are usually issued, where desired, National Match grade Service arms for use in both the School and National Matches.

TWO EXPERIENCED NATIONAL MATCH SHOOTERS Henry Sawicki firing on left and Herb Wallace on right. Sawicki was 1961 winner of the high individual aggregate in the civilian sharpshooter class totaling 2,461 points.



Expanded Since 1957

The rapid increase in pistol attendance since 1957 has necessitated adding another 100-target range. This means the pistol range alone has 600 firing points in 100 target units. This does not include sighting-in ranges. I understand the pits used for high power shooting on Vaile Range have been completely rebuilt, placing the targets closer together and providing an additional forty-five firing points and targets. Analysis of attendance during 1961 explains the necessity of facility expansion.

Last year some 2,764 registered for pistol shooting alone. Small-bore Rifle had near 800 competitors, while High-Power Rifle reached a total of 3,211 entries. The Pistol School had 2,330 enrollments; the Rifle School had 2,-773, while the Junior and Tyro School ran near 1,000 in attendance.

There were 26 organizations on Commercial Row to exhibit their ware or serve the competitors during the 1961 National Matches. These firms ranged all the way from P. J. O'Hare and Blackington's medals to the biggest in firearm equipment like Colt, Smith & Wesson, Winchester, Remington, Ruger, High-Standard and others. You will never forget Commercial Row and its evening "bull sessions" with top gun authorities.

You will witness the firing of scores that seem impossible. These scores are made possible by the manufacture of special 30-06 National Match ammunition which is so accurate its mean radius is from 3 to 3½ inches at 600 yards. You think of the excellent old 45 Colt semi-auto as an inefficient "cluck," yet its National Match ammunition produces accuracy so close, the mean radius is less than ¾ of an inch at 50 yards—.58″ to be exact. So do not blame this mean looking piece of ordnance when you fire a group one can toss an ash can through without touching your bullet holes. You are just a "punk" shooter! They will show you how to conquer this splendid old "bouncing-Betsy" at Perry.

High Powered Matches

The high-power matches are fired at two, three, six hundred, and 1,000 yards range. I believe a special Infantry Trophy Match still includes the old 500-yard phase. The 1,000-yard matches require experience in wind doping, the best of holding, the best in ammo and precision barrels. The Wimbledon 20-Shot Match at 1,000 yards is emblematic of the Long-Range-Championship of the U. S. A. Since Ben Comfort won this Match with a perfect score, including mostly V's with a 300 H & H Magnum back in 1935, this great cartridge has been a favorite with many where any arm firing any cartridge is allowed. It is capable of driving a 180 or 200 grain boat-tail match bullet some 200 feet or so faster than the famous 30-06 can toss it. However, if you follow the game closely you will discover the near unbeatable 30-06 is usually occupying most of the top 20 positions—nuff said. Earl H. Burton won the Wimbledon last year. I understand he used a Model 70 Winchester in 300 H & H Magnum caliber. Where allowed, this masterpiece of precision has been a tough cookie to beat in either 30-06 or 300 H & H Magnum caliber.



A MOST UNUSUAL TRIO are this father and son team Camp Perry bound. Terry, 13, and Timmy, 16, stand with their dad, Tom McCool, after practicing on a 600-yard military target. Only two shots were out of the five ring out of the three five-shot strings which they have just fired.

The shooting of the 1961 Wimbledon was one of the highlights of the high-power competition. Of the 1,548 shooters who entered, 45 with the Service Rifle and 45 with special telescopic match bolt action rifles were selected on the basis of scores fired for a shoot-off relay. This Match is divided into two types of arms used, and they were so squadded. Each competitor fired two sighting shots and 10 shots for record again. The range was cleared and the ten high using either type firearm started all over. The whole affair took place in front of the bleachers in the center of Vaile Range. Burton ran a perfect score of 40 consecutive bull's-eyes and 35 of them were in the V ring (20 inch center). The nearest Service rifle (Garand) with iron sights in 30-06 caliber was only a few points below him—a remarkable iron sight score.

You can expect these thrillers in every phase of the game from small

bore through the small and large caliber pistol events, as well as the 200- and 300-yard service rifle competition, and 600-yard mid-range struggles. On or about August 10, the North-South Skirmishers will put on their "spectacular," when they compete with the Civil War revolvers, carbines and 58 cal. muskets. Last year 24 teams took part with eight authentically dressed Rebs or Unionists on each team. I believe this is becoming a very worthwhile event.

Many will be migrating from all over Pennsylvania this year to Perry. From the Scranton area we will have several. NRA life member Herb Wallace seldom misses his yearly attendance at the National Matches. He shoots mostly in the small-bore events. Uses a Remington 40X Olympic type rifle equipped with a Balvar 6 to 24X Variable scope. Herb belongs to both the Scranton YMCA and Scranton Sr. and Jr. Rifle Clubs. He has been going "big-guns" all summer with high scores. Another Scrantonian is handgun specialist Henry (Hank) Sawicki who expects to be in there this year tackling a new world to conquer. Last year Henry won the high Individual aggregate in the Civilian Sharpshooter Class with the excellent score of 2,461. Such a score in 1961 gives him a tough goal to beat. Recent purchase of one of the new Smith & Wesson Model 52, 38 Special caliber semi-automatics has upped "Hank's" weekly averages considerably. We are expecting a lot from him in 1962. Loren Samsell, Sr., of Wilkes-Barre, hopes to compete at Perry in the small-bore events. He is a tough one to beat.

From the Pocono Mountain area a colorful and unique trio expects to be on hand with the Pennsylvania National Guard units to try their skill on the military and small-bore targets along the Lake Erie water front. Gun authority, expert gunsmith, and expert shooter, Tom McCool and his two sons, Terry, 13, and Timmy, 16, constitute a father and sons setup that will be known as well nationally as they are locally. Last year Tom and Timmy won the Father and Son State Championship at Altoona with a 239, 238 score over the regular four-position Army course. This will be Timmy's third State Team year and Terry's first. As I look at this handsome dedicated American trio it makes me wish we had thousands more like them. Right now we certainly need them. When you see the three T's coming with their National Match Garands, join them in the theme song "CAMP PERRY, HERE WE COME."

Letters...

Note From Spain

Just a little note to congratulate you on your 1962 series of GAME NEWS. Although I am a recent subscriber for the first time, I have been reading the news for a number of years. I am stationed in Spain at the present time, and the NEWS is my home away from home. Keep up the good work.

A3C Thomas J. Updyke
876 AC&W SQDN. AFE
Stationed in Spain

Note From England

Although I am many miles from the beautiful country of the "Keystone State" I find that the articles published in your magazine certainly provide unlimited reading pleasure, and keep sportsmen well informed of the game situation in our state. (KEEP UP THE GOOD WORK.)

A/2C E. Scott Sargen
48th Air Police Sq.
(Sentry Dog Sec.)
Stationed in England

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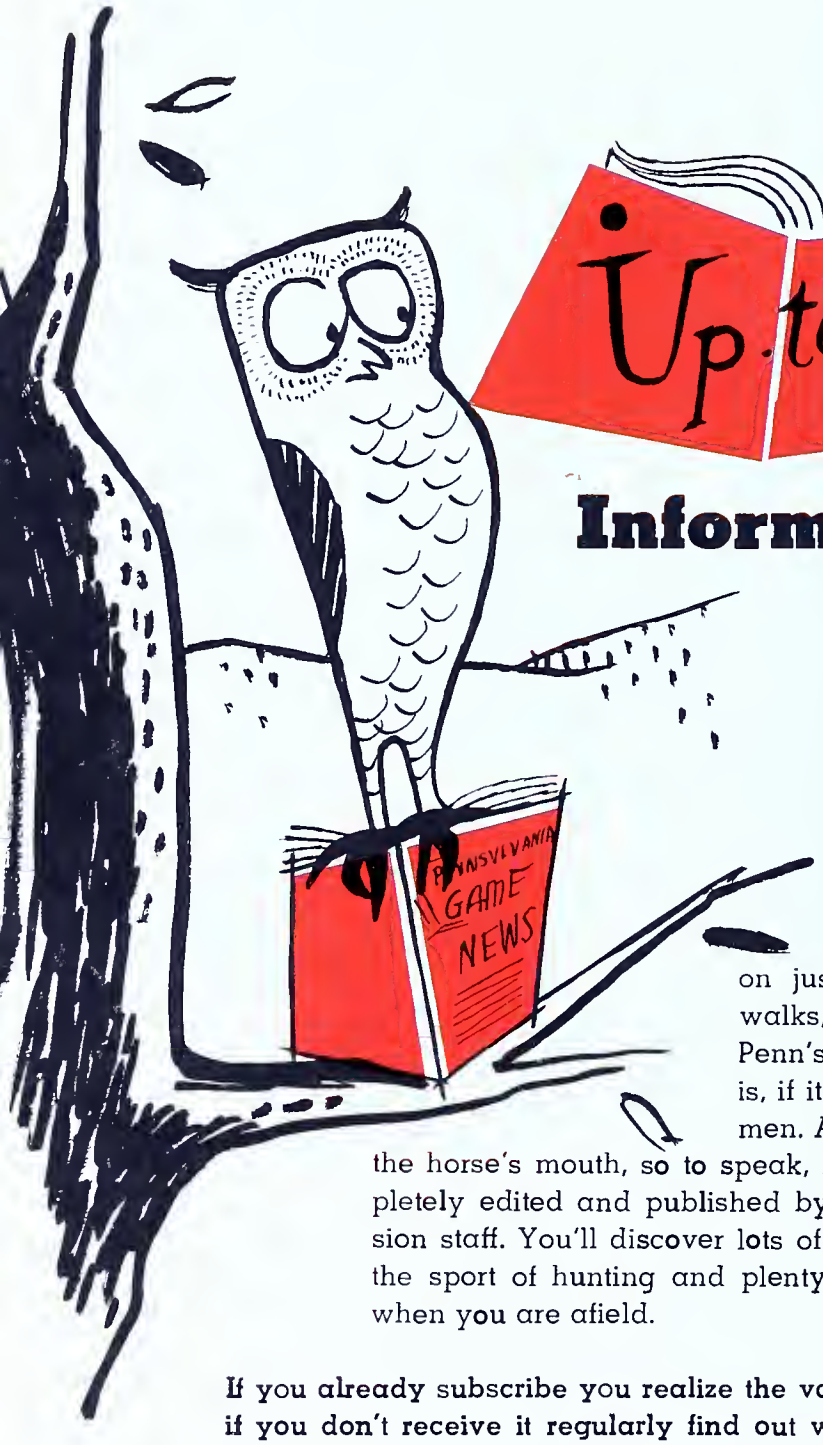
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Cover Painting
By Iwan L. Lotton

COVER: The English setter is one of Pennsylvania's most popular bird dogs. This intelligent breed is used for hunting pheasants, grouse, woodcock and quail in Penn's Woods. A long-haired, medium-sized bundle of dynamite, the English setter, serves as a gun dog, field trial and show competitor. The two strains, the Laverack (larger and heavier) and the Llewellyn (smaller, and bred for field work) both originated from the "setting" dogs of England. These 15th century dogs crouched while their handlers threw a net over the game. When the shotgun became popular, the dogs were developed to point standing upright.

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Editorial . . .

PARTNERS OF THE HUNT

Bird hunting is never fully appreciated until the hunter buys a dog, trains him and then enjoys the fruits of his labor.

Hunting for pheasants, grouse, woodcock and quail has always been one of my favorite outdoor recreational sports, but I never really knew the thrill of bird hunting until we acquired an English setter. From that time on the sport held a new meaning as "my partner" and I went afield in search of game birds.

Bird dog breeds are like new car models, they are all good and all different. It's a matter of personal preference.

Many hunters pride themselves with the long lists of famous ancestors their dog sports, but the most important thing is—can he hunt? Without the keen nose, the pulsating drive, and the desire to please, your bird dog's pedigree is worthless.

There are several recommended methods of training your pup. A little investigation at the local library will help you to select a training book.

My setter was only six months old when he held a perfect point. We were hunting a cornfield in Dauphin County one bright November afternoon. The dog was coming back to "check in," approaching three rows to my right when suddenly he froze in his tracks. I moved left to his row and started toward him. His head was down, tail up and front right foot raised. The bird was between us hidden in the fallen cornstalks. The only movement was the dog's twitching, wet nose.

This truly was a sight to behold. My blinking eyes snapped a mental picture that will send chills up my aging spine in the years to come.

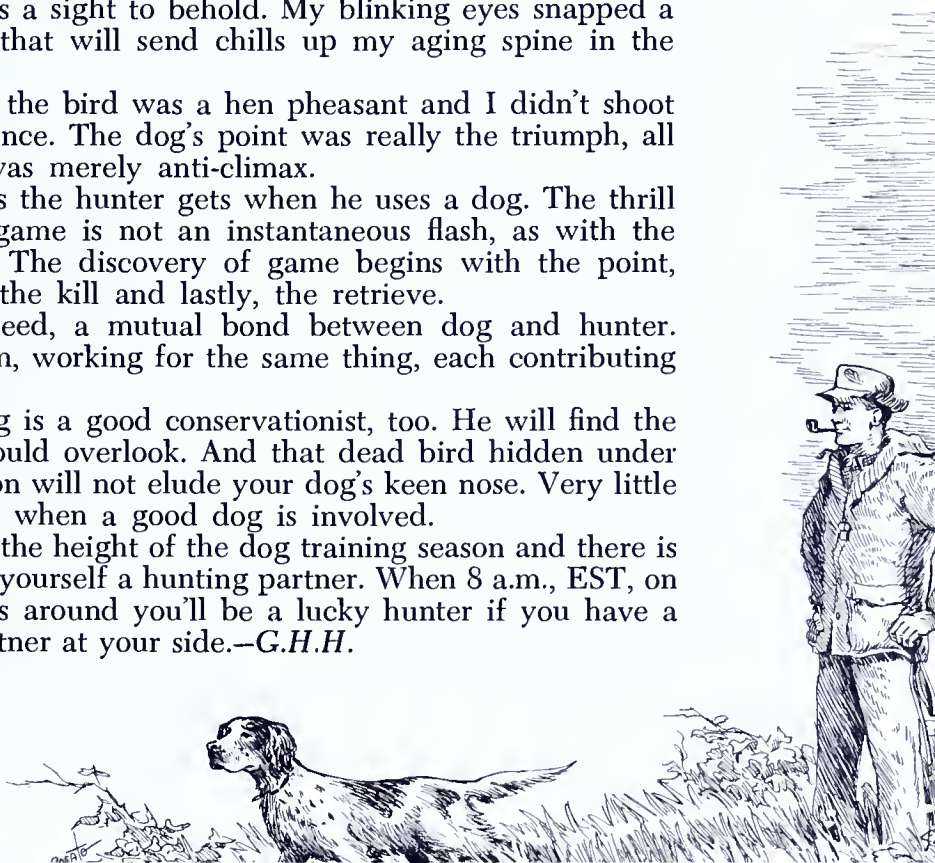
The fact that the bird was a hen pheasant and I didn't shoot made no difference. The dog's point was really the triumph, all that followed was merely anti-climax.

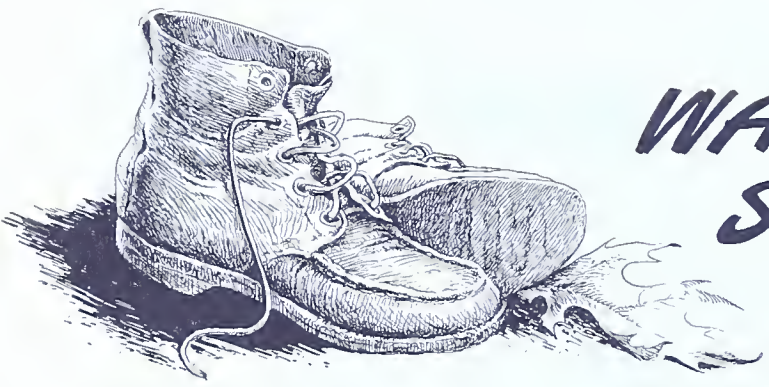
What a bonus the hunter gets when he uses a dog. The thrill of discovering game is not an instantaneous flash, as with the dogless hunter. The discovery of game begins with the point, then the flush, the kill and lastly, the retrieve.

There is, indeed, a mutual bond between dog and hunter. They are a team, working for the same thing, each contributing his share.

Your bird dog is a good conservationist, too. He will find the cripples you would overlook. And that dead bird hidden under brown vegetation will not elude your dog's keen nose. Very little game is wasted when a good dog is involved.

September is the height of the dog training season and there is still time to get yourself a hunting partner. When 8 a.m., EST, on October 27 rolls around you'll be a lucky hunter if you have a four-legged partner at your side.—*G.H.H.*





WALKIN' SHOES

By NED SMITH

The Mushroom Month

1. The "piney" is one of the best known mushrooms in Pennsylvania. Where did it get its name?
2. What is a volva?
3. Do all mushrooms have gills on the underside of the cap?
4. What color is the famous chanterelle?
5. What are sponge mushrooms?
6. Why are mushrooms of the genus Lactarius called milk mushrooms?
7. The poisonous qualities of wild mushrooms have been greatly exaggerated. True or false?
8. Morels appear in the springtime. True or false?

(Answers on Page 19)

IN MANY ways September is the liveliest month of the year — as though nature suddenly realizes how late in the year it is and tries desperately to do all the things she planned to accomplish before the arrival of cold weather. Sunflowers, goldenrods, asters, and boneset overrun the fields and meadows like white and yellow blizzards. Birds gather in tremendous flocks for their annual southward journey. Insect choruses seem bolstered by a hundred new voices each night. And, if the weather is favorable, wild mushrooms of every shape and color pop from the earth everywhere you look.

Insects are merely listened to, and birds and flowers are simply watched, but mushrooms are different. They are devoured. There's a growing army of outdoor folks in Pennsylvania who get a large charge out of hunting and eating wild mushrooms and they are always happy to see September roll around. If you've already tried it, you know it's a fascinating pastime. If you haven't, let me assure you it's four or five times as much fun as you'd expect, and will provide you with some of the most delectable eating to be found in field or forest.

GAME NEWS has carried articles on mushroom hunting in the past, so I'll skip detailed instructions for collecting and preparing them. It should be emphasized again, however, that some wild mushrooms are extremely poisonous, and anyone taking up the hobby should fortify himself with a good field guide on the subject. It goes without saying that he should never taste a single specimen that does not match in every detail the pictures and descriptions of edible species in his book.

Until you've reached the expert status avoid all mushrooms with a volva (a sheath or bag encasing the base of the stem). Although some harmless species have this feature it is also shared by some of the deadliest

of all fungi, the Amanitas. Learn to make a spore print by placing mature caps, with the stems removed, gill side down on a half-black and half-white piece of heavy paper or cardboard for an hour or so. The dustlike spores dropping from the gills will leave a deposit on the card, the color of which is often the best key to identification.

Most of the mushrooms listed in this article are good ones for the beginner, as they are easily identified and have no dangerous look-alikes; a few are more difficult. All, however, are good edible species and can be positively identified by the careful student armed with an up-to-date field guide and an average amount of common sense.

It's hard to predict just when these mushrooms will appear – everything depends upon the weather—but you can reasonably expect to find all of these during September, with the exception of the morels and possibly the chanterelles and the equestrian Tricholoma.

Abruptly-Bulbous Mushroom
(Psalliota abruptibulba)

Of the species described in this article this one most closely resembles the dangerous Amanitas and should be collected only by those mushroom hunters who are thorough and meticulous in their identification.

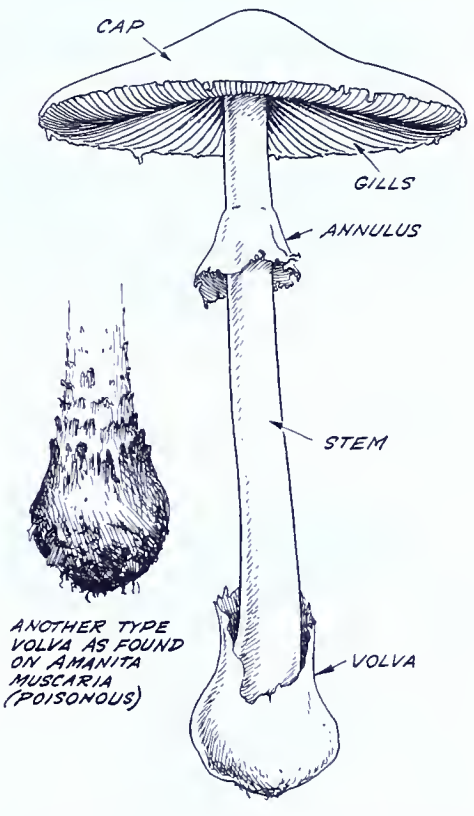
A woodland species, the abruptly-bulbous mushroom frequently grows in "fairy rings." Its cap is two to four inches across, smooth, shining white, sometimes tinged with yellow. The gills are close together and free of the stem—white when first opening, then pink, then dark brown at maturity. The stem is white, slender, and curved, ending in a flattened bulb. The limp ring, or annulus, is woolly on the underside, and hangs from the stem like a skirt.

This is an excellent mushroom but, as already stated, it should not be confused with the Amanitas. When in doubt, pick only those specimens with pink or brown gills or make spore prints. The spores should be dark brown.

Velvet-Stemmed Collybia
(Collybia velutipes)

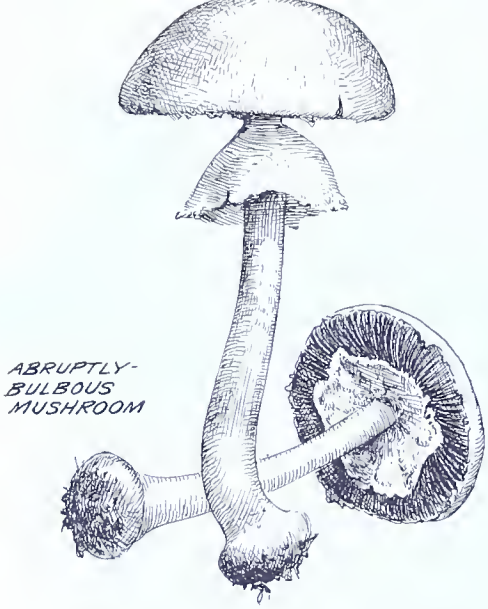
This little mushroom is a good one to know. While its flavor is not the equal of the chanterelle or the meadow mushroom, it is available throughout most of the year—frequently appearing during mild spells in midwinter.

It is found growing in tightly packed clusters on dead logs or tree stumps. The caps, usually less than 2½ inches across, are rusty yellow, or yellowish with a darker brownish or rusty center, and covered with a sticky gelatinous coating that must be removed before cooking. The stem is brown or tawny, clothed with velvety hairs at



PARTS of a GILLED MUSHROOM
EXAMPLE SHOWN ABOVE IS A POISONOUS MUSHROOM – THE DESTROYING ANGEL (AMANITA VIROSA)

Fig. 1



ABRUPTLY-
BULBOUS
MUSHROOM



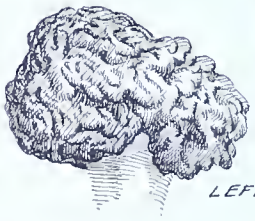
VELVET-STEMMED COLLYBIA

THICK-STEMMED
MOREL





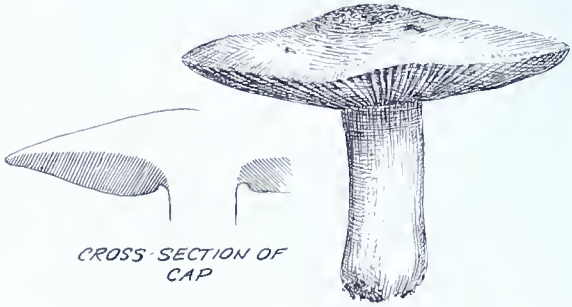
HEN-OF-THE-WOODS



LEFT - GYROMITRA OR
FALSE MOREL



ORANGE-BROWN
LACTARIUS



CROSS-SECTION OF
CAP

EQUESTRIAN TRICHOLOMA

NED SMITH

maturity. The gills are white or pale yellowish, each with a rounded notch where it joins the stem.

Hen-of-the-Woods
(Polyporous frondosus)

It would be hard to mistake this mushroom for any other; certainly it could not be easily mistaken for a harmful species. Only young plants should be eaten, however, for they become quite tough with age. It consists of a large (8-15 inches across) mass of leaflike smoky-gray caps growing from the roots or base of a living oak or other hardwood tree. The white or yellowish undersides of the caps are coated with a layer of extremely minute pores, rather than gills.

It is easy to see where the hen-of-the-woods gets its name. It certainly does look like a grouchy old hen with her feathers ruffled in indignation.

Thick-Stemmed Morel
(Morchella crassipes)

All the morels, commonly called sponge mushrooms, are good to eat and some are considered to be the most delicious of all wild fungi. The excellent species illustrated is one of the largest, exceptional specimens attaining a height of eleven or twelve inches, although the average is about six. Its pitted cap is brownish in color, somewhat conical in shape. The stem is flesh-colored and, like the cap, is hollow. Other species vary from olive gray to yellowish in color, but the pitted cap and hollow cap and stem are characteristics all morels have in common. They can be confused only with the Gyromitra, or false morel, and the stinkhorn mushroom. The Gyromitra has a convoluted rather than a pitted cap, and the stinkhorn's foul odor would deter anyone from tasting it.

Look for morels in the *springtime* in old apple orchards, on burnt ground, and beneath oaks and elms. Split them and soak in salt water. They are good sauteed in butter but for a special treat try packing them with your favorite meat mixture for stuffed peppers and baking in an open dish.

Equestrian Tricholoma
(Tricholoma equestre)

This mushroom is commonly known as the "piney" because it is found in hard pine woods. It puts in an appearance in the fall, often rather late, and some years it fruits well into the winter. Because of its squatty stature it often fails to raise its cap through the forest duff, but the knowing mushroom gatherer recognizes the low mounds of pine needles heaved up by its efforts and uproots it from its hiding place.

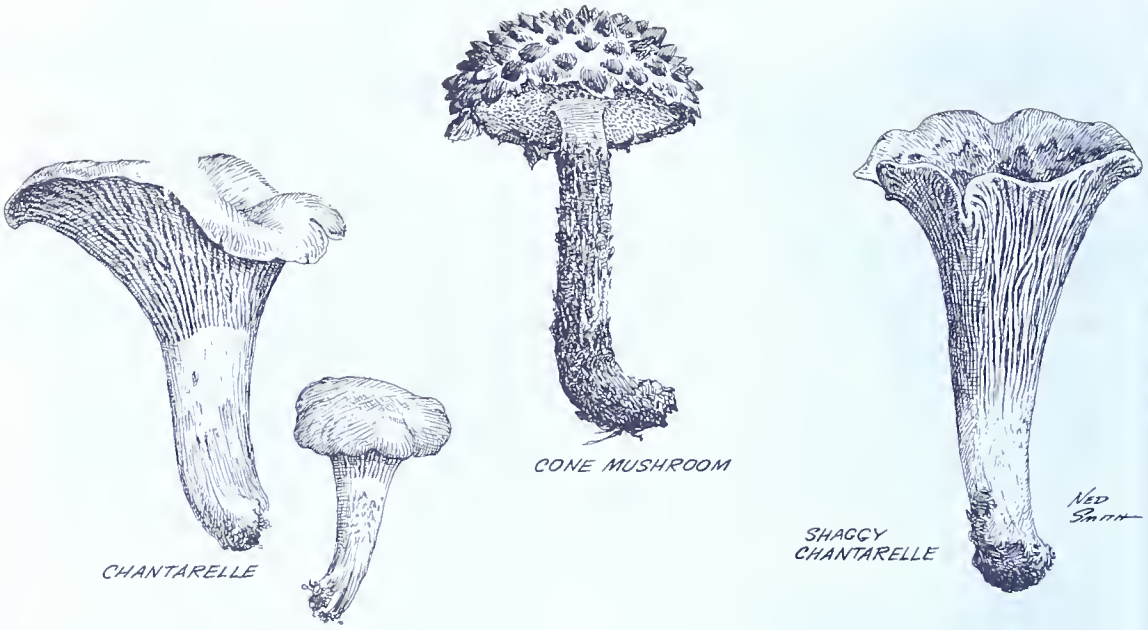
The piney has a yellow cap, the center of which is usually roughened by minute reddish or brown scales. The gills are sulphur yellow, notched where they are attached to the stem. The stout stem is white to pale yellow on the outside, white on the inside.

Orange-Brown Lactarius
(Lactarius volemus)

The orange-brown Lactarius is a squatty type, with a cap that is three to six inches across, usually depressed in the center, and golden orange-brown in color. It has a dry appearance, and the epidermis is often cracked. The white or pale flesh-colored gills are broadly attached to the stem. The latter has little or no taper and is a bit paler in color than the cap.

All mushrooms of the Lactarius genus exude a milky fluid when the cap or gills are broken. The "milk" of the orange-brown Lactarius is always white in color and mild in taste.

Two poisonous Lactarii should be avoided. One is the red Lactarius, a plant with a dark red cap, stem of similar color, and white, peppery milk. The other is the sulphur milk Lactarius, similar to *volemus* but with white milk that changes to sulphur yellow within a few seconds after exposure to the air.



Lactarii are best when baked in a covered dish with a few strips of bacon and a topping of bread crumbs.

Cone Mushroom

(Strobilomyces strobilaceus)

This unkept looking woodland fungus is unmistakable. Its cap is pale gray covered with blackish cottony tufts. Instead of gills it has a layer of pores on the underside of the cap that changes from white, through reddish, to black with age. The shaggy stem is similar in color to the cap. The flesh is white but changes to reddish, then black, when cut or bruised.

This mushroom's flavor is good enough, but the task of preparing it for cooking (the woolly tufts should be removed) and the unappealing hue of the broken flesh make it less popular than it might be.

Chanterelle

(Cantharellus cibarius)

Few mushrooms enjoy the chanterelle's excellent reputation, for it is one of the most desirable of all wild fungi. Look for it in both hardwood and conifer forests in mid to late summer.

At maturity it is somewhat funnel shaped, usually with a wavy or folded margin. The gills are blunt and far apart, like forked and interlaced veins, and they extend far down the stem. The latter is usually smallest at the base and often decidedly curved. All parts of this mushroom are deep chrome yellow. Many specimens have an odor like apricots.

Fast cooking toughens the chanterelle. It is better to pour scalding milk over it and allow it to soak in this liquid overnight. Then stew it slowly until tender and season to taste.

Shaggy Chanterelle

(Cantharellus floccosus)

Another excellent chanterelle is this shaggy one. Young specimens are almost cylindrical but become funnel-shaped at maturity and deeply excavated in the center. The inside of the funnel is usually yellow or ochre in color, and is adorned with numerous darker, shaggy scales. The yellowish gills are blunt, rather close, and repeatedly forked and interlaced. They extend far down the stem. Although yellow ochre is the usual hue, I have found specimens that were a beautiful salmon color overall.

Look for this delicious mushroom along woodland streams in late summer and cook it as you would the true chanterelle.



PGC Photo by Bob Parlaman

P-R IN ACTION. Dams, dikes and roads are part of the development and maintenance of P-R supported game management areas. This is the Pymatuning Goose Management Area in Crawford County to be opened to controlled shooting for the first time this fall.

25 Years of Federal Aid in Wildlife Restoration...

P-R's Silver Anniversary

By E. G. Musser
P-R Coordinator

A SEVERE drought plagued our nation in the early 'thirties and the North American waterfowl population was in extreme danger due to the shortage of well-watered nesting, breeding and feeding areas. This crisis revealed the great need for adequate financing of wildlife restoration projects in the United States. Thus was the beginning of the most significant conservation legislation of our time—the Pitman-Robertson Act.

In order to stem the drought problem of that critical period, a crash program by the U. S. Government for the purchase and development of several million acres of land and water for waterfowl refuges was instrumental in easing the situation.

At the same time, the states were beginning to realize more and more that while the responsibility for management of waterfowl and other migratory birds rested in the Federal Government, the states also had a big stake in the nation's waterfowl resource and that each individual state was solely responsible for man-



PGC Photo by Harrison

HOWARD NURSERY in Centre County where the Game Commission produces over five million seedlings annually is 75 per cent supported by P-R funds. Nursery Superintendent George Weller is shown examining crab apple seedlings.

agement of its resident wildlife. Unfortunately, most states lacked the necessary funds for effective wildlife restoration programs. Money was needed for research, for management, and above all, for the purchase and development of land and water areas.

This need for additional funds at the state level was a prime topic for discussion at the first North American Wildlife Conference held in Washington, D. C., during February, 1936. Congress was then considering the abolition of certain excise taxes, including that on sporting arms and ammunition. Farsighted individuals in and out of Congress, concerned over the future of wildlife and public hunting, conceived the idea of having the excise tax on sporting arms and ammunition continued, but with proceeds going into a special fund to be distributed to the states to pay for needed wildlife restoration rather than into the general funds of the U. S. Treasury.

Such a proposal was presented to the International Association of Game, Fish and Conservation Commissioners at its annual meeting in 1936. The Association gave hearty endorsement to the proposal, as did the National Wildlife Federation at its meeting in March, 1937. The draft of the original Pittman-Robertson Bill was prepared by Carl D. Shoemaker, Secretary of the Senate Special Committee on Wildlife who also served as Secretary of the National Wildlife Federation at that time.

The bill was sponsored in the Congress by the late Senator Key Pittman of Nevada and Senator (then Representative) A. Willis Robertson of Virginia.

Passed Unopposed

The bill was ably presented and supported and it passed the Congress without opposition. It was signed by President Franklin D. Roosevelt on September 2, 1937. Many persons in addition to members of Congress were active in supporting the measure. Chiefly among these were T. E. Doremus of the DuPont Chemical Company, the late F. M. Olin of Winchester - Western Arms Company, Charles L. Horn of Federal Cartridge Company, M. Hartley Dodge and C. K. Davis of Remington Arms Company, and Dr. Ira N. Gabrielson, Chief, Bureau of Biological Survey.

The new legislation, known as the Federal Aid in Wildlife Restoration Act, became effective on July 1, 1938. Commonly known as the Pittman-Robertson Act, the program is administered by the Bureau of Sport Fisheries and Wildlife of the U. S. Department of the Interior.

Under the terms of the Act, project costs are borne initially by the state game departments. Reimbursement from Federal funds for completed work is made for the Federal pro rata share, which cannot exceed 75 per cent of the cost of each project. The states are required to contribute 25 per cent or more of project costs from their regular funds.

The first funds became available to

the states on July 1, 1938. The first approved P-R project was submitted by Utah for development of its Ogden Bay Waterfowl Area. During the period July 1, 1938, through June 30, 1961, a total of nearly $219,000,000 was apportioned to the states and territories for wildlife restoration purposes.

Out of the total funds made available since the inception of the program 20.0 per cent was obligated for land acquisition, 51.4 per cent for development of habitat, 23.3 per cent for research, and 5.3 per cent for coordination. A total of 2,373,754 acres of land has been purchased under this program by 47 states for wildlife restoration and public hunting purposes.

Habitat improvements resulting from Pittman-Robertson projects benefiting practically every species of game animal now cover vast areas of public and private lands. Land acquisition has made the intensive development and preservation of suitable wildlife habitat possible and has contributed greatly to the need and mounting demand for public hunting opportunities as the nation's population increases.

Pay for the Use

Behind the "Federal Aid in Wildlife Restoration Act" is the premise that those individuals enjoying the use of wildlife should contribute through the Federal Government to a nationwide restoration program. Funds are made available from the revenue collected through a manufacturers excise tax of *11 per cent imposed on sporting arms and ammunition.* In this manner, those who benefit directly from the program bear the costs. Obviously, however, benefits accrue to all persons who enjoy the outdoors whether they like to hunt or not.

Statistics on the sale of hunting licenses indicate that the wildlife restoration program has received national recognition. In the twelve years immediately after World War II, from



PGC Photo by Parlaman

BULLDOZING FOR WILDLIFE is another P-R supported project of the Pennsylvania Game Commission. These big machines create clearings for food plots or access roads for hunters and development programs.

1945 through 1956, the number of paid hunting license holders rose from slightly over eight million to nearly fourteen and one-half million. During the hunting license year, September 1, 1960, to August 31, 1961, there were 996,867 persons holding paid licenses to hunt in Pennsylvania. This is the highest yearly license sale on record to date.

Despite the increase in revenue from license sale on which most states are dependent for the support of their program, the disproportionate increase in hunting due to larger amounts of leisure time and improved transportation facilities, has placed a severe burden on the states and imposed heavy pressure on supplies of game. The Federal Aid Program is designed to assist the states in their efforts to cope with a continuing problem by providing financial assistance for restoration measures essential to the maintenance of hunting as an American form of recreation.

To qualify for Pittman-Robertson funds each state must pass *enabling legislation* which was done in Penn-



PGC Photo by John Behel

BORDER CUTTING ON FARM GAME PROJECTS is an important Game Commission P-R supported program. This is a border cutting made last fall in Luzerne County near Dallas on Farm Game Project No. 6.

sylvania through Section 1401 in the Game Law, and the Act of May 26, 1939, P.L. 239. Furthermore, before any state becomes eligible to participate in the use of these Federal funds it must by legislative action *prohibit* the *diversion* of hunting license money into channels other than conservation. Pennsylvania, through the Game Law, has established a separate fund known as the *Game Fund* to be used for wildlife conservation and management purposes only.

Pennsylvania has been a very active participant of the P-R program since its inception. In the 1960-1961 year, our state received $541,196.53 of the total national collection of $14,985,-093.01. From 1938-1939 to 1961-1962, inclusive, Pennsylvania has received a total of $8,351,518.19 in wildlife restoration funds.

Long and Short Projects

Some of our Game Commission P-R projects, like the Food and Cover and Farm Game Development Project have run fourteen consecutive years while research projects on our game species are from two to ten years old.

Land acquisition has been an important function of Pennnsylvania's P-R program. From 1939 to 1961 the Pennsylvania Game Commission bought 167,994 acres of land for State Game Lands under the P-R Program. The state's share of this expenditure was $227,990 while the P-R Fund contributed $683,530.

P-R help does not cease with the land acquisition. Land must be developed, maintained and managed to produce game. Dams, dikes, roads, food strips, tree and shrub plantings, forest thinning, release cuttings and timber analysis are part of the P-R Program and contribute to the production of game.

Research on our game species along with food and cover studies also receives P-R support. Some of these active projects include the wild turkey study, white-tailed deer study, woodcock management study, the Conemaugh River Reservoir study, waterfowl banding study, the snow-

shoe hare investigation, the ring-necked pheasant study and the habitat improvement study on pipeline and spoil bank areas.

The Game Commission's Howard Nursery in Centre County which produces over five million seedlings annually is another phase of Pennsylvania's P-R Program.

As Ira N. Gabrielson, President of the Wildlife Management Institute, stated in his book on "Wildlife Management"—"This P-R legislation has produced the first semblance of a national wildlife program in history . . . and . . . in fact, as time passes, it appears to be the most significant conservation legislation that has passed the Congress in many years."

It should be recognized that the hunter and the sportsman through payment of excise taxes on sporting arms and ammunition and by the purchase of hunting licenses is responsible for the accomplishments of the Pittman-Robertson program. Since the hunter pays the bill he is entitled to harvest the benefits—and he does.



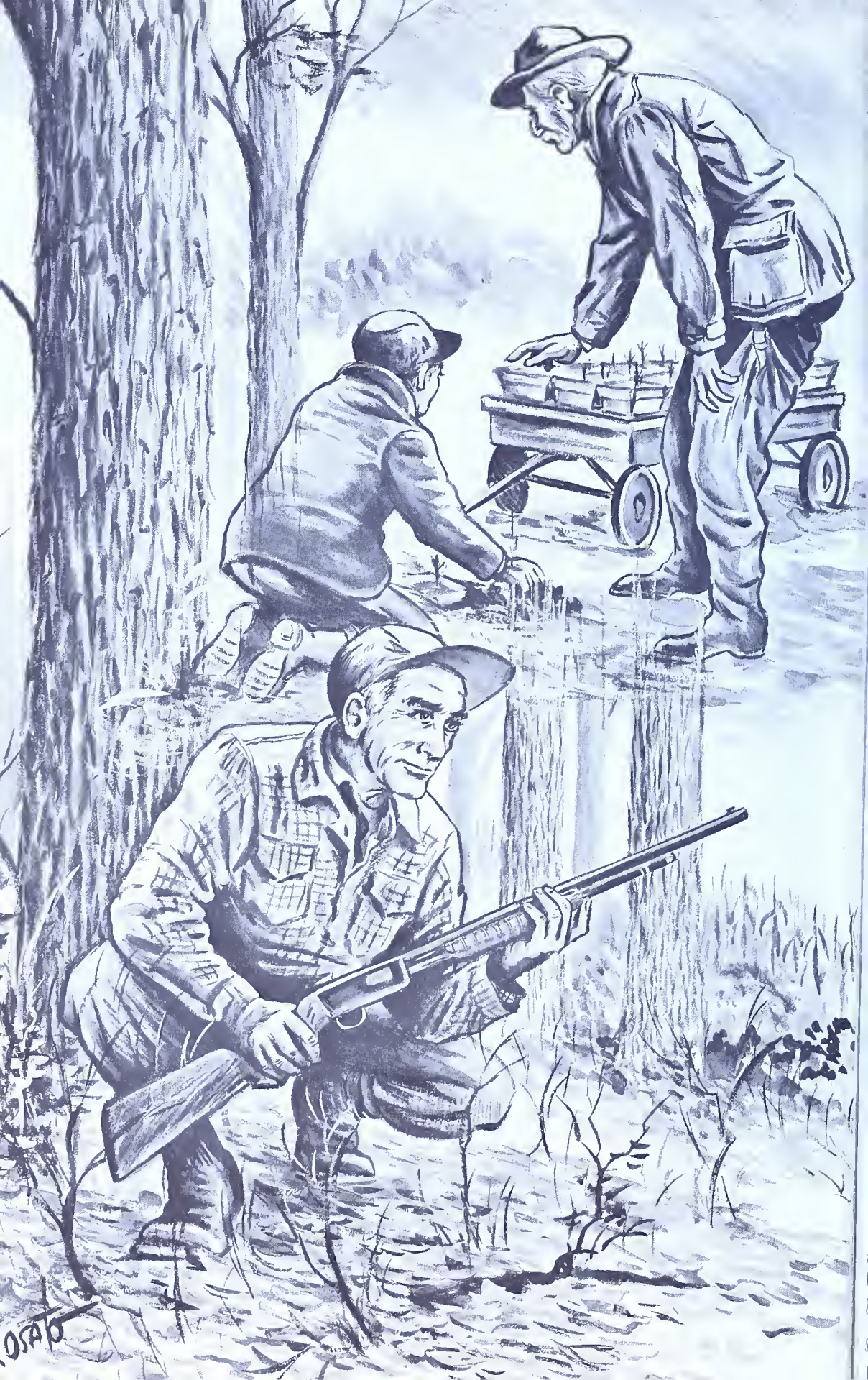
Photo by Carl Nelson

RESEARCH RECEIVES P-R SUPPORT TOO. Here Game Biologist Steve Liscinsky, working on the white-tailed deer study, acquires information from Meadville residents Joseph E. Barclay and Clarence Hollabaugh.

Portraits of the Season

September

A COLD rain hisses through the woods of August. It turns to a dripping September that soon dries in the hot sun of the ripening year. But it is enough to bring the toadstool tribe into fruit and they dot the woods with orange and pastel green, with livid whites and reds that glow with a holy light in the dark-aisled woods. Fawns have outgrown their spots, but still dance with whisking tails, the dances of adolescence, while the old ones bend to the early acorns. Bucks with ragged horns give a rub-a-dub battle to the alders as their crowns polish for the rut. High, sky-wheeling nighthawks in common flock pass southward, far ahead of the changing season. For the days, though short, are still warm, and the old man chuck is out laying on more fat. Nights throb to the high-clicking katydids in the trees and the piercing, musical, all-pervading surge of the night grasshoppers that sing themselves to a frosty death. The first frost does sear the ferns and warn the jumping mouse to be about his hibernation. But the quick of life is not so easily stilled and the nightly chorus goes on. Asters and goldenrods carpet the roadside and the ruby-crowned kinglet, fresh from the north, brings autumn to Penn's Woods. The first yellowed aspen leaf spirals down through the lazy September—*John Guilday*



The Old Man and—

The Art of Conservation

By Paul A. Matthews

BEN HOLCOM squatted against the bole of an old shagbark hickory and waited patiently for a stir of life in the bowl-shaped amphitheater that seemed to have been made to order for squirrel hunting. On three sides of the grove there was a cornfield with its dead stalks and saber-like fronds rustling in the raw November air, while down hill from him, the land sloped away into a steep sided ravine fringed with hemlocks and which gradually merged into the wood lot.

A Small Plot of Land

Hickory Hollow, it was called. A small plot of land—maybe an acre all told—that never would have been good for anything else except hickories and squirrels. And in this latter capacity, it excelled as the best in the county. Few hunters knew about the place because of the hill and the cornfield that shielded it from view, and those that did know were old-timers who had grown with the country and remembered its origin.

How many years ago had it been? Thirty? Thirty-five? It takes about thirty-five years for a shagbark to grow from a seedling to the size of a man's waist. And these had been seedlings when the Old Man planted them thirty-five years ago come next April.

Ben remembered the year well, for spring had been late in coming with snow storms at the tail end of March and lagging over for the first two weeks of April before any break in the weather. And then when the weather did break, it came off warm and sunny just long enough to melt the snows and suck the frost from the ground before the spring rains turned the dirt roads into muddy lanes full of sink holes. Even the Old Man's Model T with its nineteen-inch wheels was left in the shelter of the shed lest it be mired hub deep in mud within a hundred yards of the shack.

A Sabbath Day

It was on a Saturday morning when he showed up at the house wearing a frazzled red checkered hunting shirt and a mud-spattered denim jacket that had seen cleaner days in a Sears Roebuck order house. He kicked the mud from his turned down hip boots, took off the droopy Spanish War campaign hat to expose a frowsy mass of white hair, and entered the kitchen with all the ceremony of a determined old man who knew what had to be done and was about to do it.

"Mornin' Miz Holcom . . . mornin' Ben. . . ."

Ben mumbled something through a mouthful of steaming oatmeal and motioned with his hand for the Old Man to sit where Ben's mother was already pouring a mug of coffee.

"Don't know as we ought to take the time, Miz Holcom. We got work to do today."

"Ben's *going* to take the time," she said sharply. "So you might just as well join him!"

The Old Man grinned and spooned some sugar in the coffee and stirred it around.

"What have we got today that's so all-fired important? It's rained all night an' there's nothing but mud outside."

"This is the time of the year, Ben—the time to be doin' things fer the future—not sittin' in a shelter all day waitin' fer better things to come." He



"JUST TRY TO 'MAGINE IT BEN," he said. "Just 'magine this here entire little bowl covered with great big old shagbark hickories an' you an' your son sittin' on that boulder over yonder with the little 25/20 poppin' off squirrels for the stew pot."

poured some of his coffee into the saucer and blew across it as was the practice of that day, and when it had cooled, he parted his moustache and sipped from the saucer, balancing it delicately with his thumbs and forefingers. It was a stunt that Ben had tried—once.

"We got trees to plant, Ben," he announced.

Remembered the Berry Baskets

And then Ben remembered the forty or fifty berry baskets full of dirt that he'd seen sitting on benches and chairs and tables in the Old Man's shack, and the small green sprout that had poked upward in each receptacle. All spring long the Old Man had pampered his "plants"—"peetoonias" as he called them – lavishing them with the same kind of care one would extend toward a six weeks old pup. And now they were trees in miniature —gawky and uncertain looking like a new-born fawn.

"It's quite a step over there," the Old Man said, "so I took the shovels over yesterday. Figgered we could use your wooden express cart to truck the plants in."

Ben nodded in agreement and between the two of them they dragged the old cart up the road and loaded it, making a double deck in order to get all the baskets in one trip. And then they followed the log road that wound up the hill behind the Old Man's cabin, turning off to follow the hogback ridge that twisted northward in the general direction of the Jennings farm.

"Thet gully ain't good fer a thing," Charlie Jennings had said. "It jest reaches up from the woods into my cornfield, an' every time there's a rain, a big chunk of my field gets washed away. Sure you can plant some trees in it. Don't know as they'll grow though."

"They'll grow," the Old Man stated matter-of-factly.

And they did.

Worked All Day

The Old Man and Ben worked all day that Saturday, first digging a hole just the right size and then clipping the sides of the berry basket so that they could be folded down and away from the roots after the seedling had been placed in the ground. And then

the fresh dug earth was smoothed over and a screen of old chicken wire circled around the tree for protection. Twice during the summer they went back to loosen the dirt around the trees, and the following spring old Charlie Jennings sprinkled the ground with commercial fertilizer. "It's worth a bag of fertilizer," he said, "if'n they'll grow."

Yes—that was thirty-five years ago come next April, and since that time the trees had grown to the size of a man's waist and the erosion ruts in the field had long since disappeared. And—say along the latter part of October or the first of November—when the real heavy frosts begin to pop the shells open, the ground was so white with hickory nuts "you could durn near scoop 'em up with a shovel!"

The squirrels came out of the hemlocks in droves, some of them burying more nuts in the ground to start new saplings and others carrying the fruit off to more distant locations. But it had been just as the Old Man predicted that day in April when the two of them stopped to eat their lunch.

"Jest try to 'magine it Ben," he said. "Jest 'magine this here entire little bowl covered with great big old shagbark hickories an' you an' *your* son sittin' on thet boulder over yonder with the little 25/20 poppin' off squirrels fer the stew pot. Ain't nuthin' better than squirrel potpie!" And then he sucked on his pipe and leaned back with his eyes half closed as though he could actually look beyond the curtain of time and see the scene as he visualized it in his mind. "I tell you fer a fact, lad, it don't always take a lot of dollars an' cents to be dead certain that we always have a place to hunt an' game to hunt. It just takes a little *sense*—common sense!"

A BOW HUNTER'S STORAGE BOX

By G. Howard Gillelan

Photos by the Author

A BOW hunter, like most outdoorsmen, never can be sure which equipment he should take along into the field. Invariably, he'll need some article which he left home because he can carry only a limited amount of equipment. It could be a first-aid kit, which he has carried on numerous hunts and never used. Or, when the weatherman calls for fair skies, the hunter will leave his rain jacket at camp. And, of course, that's when a surprise midmorning rain may shower down and drench him.

A camera is bulky, and besides, too often a hunter has lugged it into the woods without using it. If he leaves it in his car, that's just the time that he or his buddy will bag a deer five miles from the road. And generally, it happens in the last half-hour before



THIS HUNTER CARRIES HIS BOX under the arm. A better way is to use a wide strap made of webbing. Then the bow hunter can carry the box suspended from his shoulder.



SLIDING DOORS ARE OPEN, showing some of the useful articles that can be carried in the hunter's storage box.



THE BOX DOUBLES as a comfortable seat, and helps the bow hunter to remain still as he waits along a deer crossing. For the best results, box should be painted in camouflage colors.

dark, with no time to return to the car for the camera.

Since the majority of bowmen search for a good deer crossing and then take a stand, the answer to the equipment problem is a portable, easy-to-build storage box, similar to the one shown in the photos. The box has plenty of capacity for all those odds and ends which may come in handy. And with the addition of a wide strap made of webbing, it can be slung over the shoulder and carried for miles. The box doubles as a seat, too, helping the bow hunter to remain still when he's waiting for that big buck to come down the trail.

The sliding doors can be opened without noise and with a minimum of movement. For best results, the box should be made with a removable shelf, as well as compartments to keep smaller articles from rolling and rattling around inside. Although the hunter's box shown in the photos is unpainted, it isn't complete until covered with flat, dull-colored paint. A camouflage paint job is best, with two or three shades of dark greens and browns.

The design of the box can be left up to the archer's preference. It should be high enough for comfortable seating and made of sturdy, lightweight materials. The sliding door feature is recommended, as are the extended sides, which form legs and prevent the earth's dampness from penetrating the contents.

A bow hunter can carry a few essentials in his pockets—matches, compass, extra bowstring, a police whistle for emergencies, sunglasses, etc. But, by using the portable storage box, he can be fully equipped and at the same time comfortable. Below is a list of some of the useful articles which can be taken afield by means of the box.

Still camera
Movie camera
Extra film for both
Binocular
Knife
Axe
Sharpening stone
Rope
Notebook
Seat pad
First-aid kit
Canteen or thermos
Tobacco
Map
Flashlight
Gloves
Extra sweater or jacket
Foul weather gear
Lunch
Spare shooting glove
Field repair kit for arrows
File for sharpening broadheads
Insect repellent
Buck lure

Foxes Outwitted Camera, but Started a Far-Reaching Project...

Here's a Conservation Caper!

By Dale E. Becker
Principal, King's Highway Elementary School
Wagontown, Pa.

"THEY went quietly along the edge of the school property and into the woods. Two red foxes!" This was the announcement made to the principal of the King's Highway School, Wagontown, Pa., by sixth grade student, Herb Rissel. The principal had often dreamed of experimenting with outdoor photography and when this suggestion was put to Herb he was ready to begin.

We obtained an old camera that worked well. From Herb's grandfather, a local farmer, a dead chicken was secured for bait. Our camera was rigged with a string attached to the bait and set on an old stump in the woods adjacent to the school property. We hoped and prayed the foxes would be interested in our chicken.

Herb checked the camera the next day before he went to school and sure enough we got a picture—at least we thought we had! Then we had to wait for two days to get the film developed. This seemed an eternity!

When the picture finally arrived, the joke was on us. Instead of the two foxes, the picture showed a big, fat skunk!

This experience was the beginning of an idea—one in which hundreds, perhaps thousands of children would become involved in activities concerned with conservation and natural science.

The idea was simply to develop a planned outdoor laboratory where children and teachers could observe and work conservation concepts. In order to start the ball a rolling, a committee of teachers and the principal outlined jobs for each grade to accomplish in developing the park. The

AN OUTDOOR LABORATORY AT WAGONTOWN is being developed here by students of the King's Highway Elementary School. The whole idea began with a self-portrait of a skunk (insert) taken by a camera with string attached to bait.





PGC Photo by Paul H. Glenny

SECOND GRADE CLASS PLANTING WILD FLOWERS in King's Highway Elementary School outdoor laboratory. The area where the flowers are planted is one of the most popular spots in the park. It was recently named "Wild Flower Lane."

final plan called for the first graders to plant bulbs of all kinds; second graders were to develop wild flower areas; third graders—shrubs; fourth graders—ground covers; fifth graders—bird and wildlife conservation; sixth graders – evergreen and deciduous trees. As children moved through the school they would receive a broad experience in natural science and conservation.

A Cooperative Effort

Permission to use the woods was granted by the owner and Township Supervisors supplied the stone for building paths. The P.T.A. began selling square yards of ground they actually didn't own, giving a mock deed, to raise money to buy the ground. They sold like hot cakes!

Clyde Jackson, Agriculture Specialist, Office of the Chester County Superintendent of Schools, organized the resources available through state and federal agencies. The Pennsylvania Game Commission was represented by District Game Protector Edward Fasching and Land Manager Roy Trexler (now N.E. Division Supervisor), and Clayton Heiney from the U. S. Soil Conservation Group completed the committee of experts to plan the development of the park. Their ideas were invaluable.

The park has been developing now for two years. The experiences that the children have been having are wonderful. Last fall during the Halloween season the fifth graders placed baskets in the halls for children to contribute ear corn for feeding the birds and animals in the Science Park last winter. Three to four hundred pounds of corn were collected and the birds and animals ate well during the cold weather.

All Grades Participated

More than two hundred first grade children each have planted a bulb in the park. They learned that you plant a bulb with the tip up in the hole. They thrilled at seing "their bulb" flowering in the spring.

Second grade children have planted and tagged more than twenty different varieties of wild flowers. This is fast making "Wild Flower Lane" the most delightful area of the Park.

The trees have been identified and seedlings have been planted by the sixth graders.

Ivy, pashysandra, myrtle, arbutus and other ground covers have been planted by the fourth graders.

Wildlife cover was planned and made by the fifth graders.

A salt lick has been placed in one corner of the woods to attract the deer to our happy place. Although we haven't seen them, their hoofs have been imprinted in the damp woods soil.

An outstanding community physician who is also a noted naturalist owned the Park ground. Consequently, the Park has been named the Dr. Charles H. Stone Natural Science Park.

Our conservation caper has been a stimulating challenge from the beginning. If you ask the children, they will tell you it was fun. If you ask the staff, they will tell you it is a wonderful adventure. If you ask me, I think it's terrific!

SIXTH GRADERS LISTEN to John Morgan, one of King's Highway Elementary teachers, as he shows them how to identify trees firsthand. The outdoor lab has been recently named "The Dr. Charles H. Stone Natural Science Park" for the original owner. *PGC Photo by Paul H. Glenny*



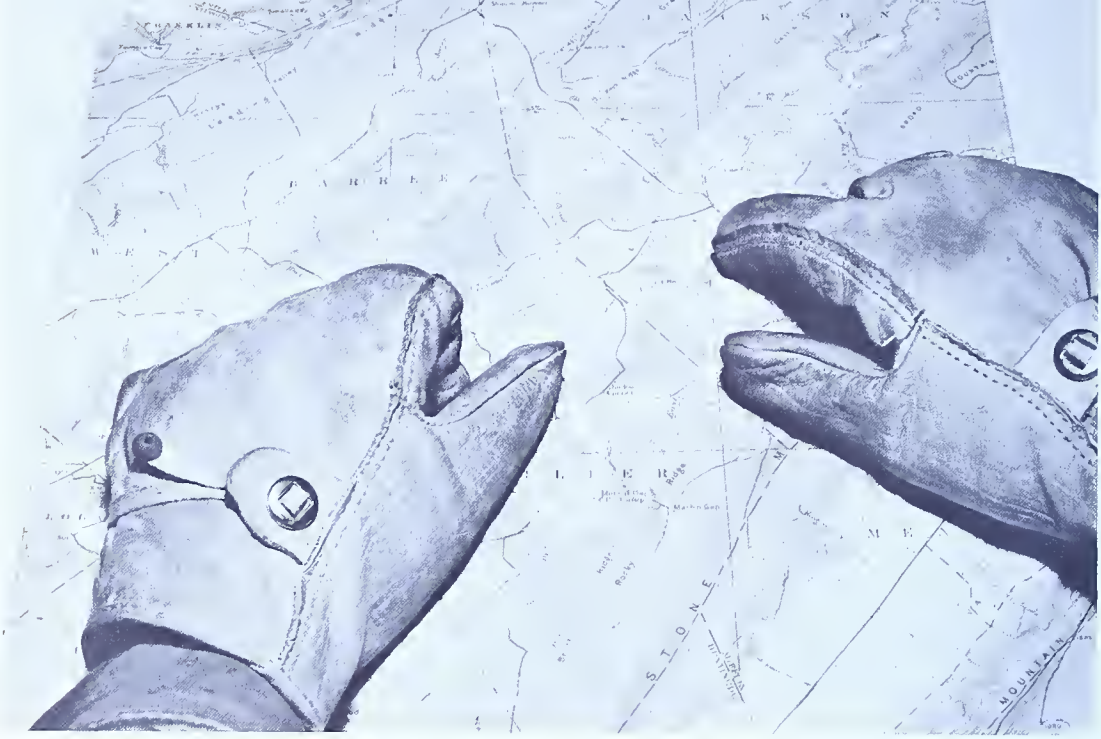


PGC Photo by Paul H. Glenny

KING'S HIGHWAY STUDENTS study trees and shrubs in an outdoor class conducted by their principal, Dale Becker, the author. The woods next to the school property was purchased by parents and friends for use by the youngsters attending the elementary school.

ANSWERS TO THE QUESTIONS ON PAGE 2

1. From its habit of growing in pine forests.
2. A membranous bag or sheath that encases the base of a mushroom's stem.
3. No. Many have minute pores instead.
4. Deep, rich yellow.
5. Morels, mushrooms with sponge-like, pitted caps.
6. Because they exude a milky fluid when cut or broken.
7. False. It would be hard to exaggerate the deadly nature of some of the most poisonous wild mushrooms.
8. True.



PGC Photo by George H. Harrison

A MAP IS ONLY AS HELPFUL AS THE USER IS PROFICIENT in reading it. Thus, a map can be simply a colorful picture, or it can be a source of clues telling much about the terrain. This is a topographic map of central Pennsylvania.

Learn the Country You Hunt
By Use of a Topographic Map . . .

'MAP' Your Next Hunt

By Eugene R. Slatick

WOULD you like to know in advance what the country will be like at that new place you plan to hunt, or, for that matter, a little more about the locality you now hunt? Like to know where the marshes and streams are; if the hills are rugged; what distances must be covered; where a road ends; whether a trail leads to the far end of a valley? If you do, the key to all this is the topographic map —but reading it takes a certain amount of skill.

Most persons find maps fascinating things just to look at, and indeed they are. A large area, usually too big to fully appreciate in the field, is scaled down and placed on several square feet of paper. Miles can be covered by a mere sweep of the eye; and a finger can trace across the map, rolling effortlessly over mountains and plains.

A map is only as helpful as the user is proficient in reading it. Thus, a map can be simply a colorful picture, or it can be a source of clues

telling much about the terrain. As the Indian had to learn the subtleties of nature, the map interpreter must learn to read beyond the paper and ink. A skilled hunter may know the ways of his quarry, but unless he also knows the country he hunts in his chances for success are reduced. The situation is quite analogous to someone telling you that Jack is in the den, but you don't know where to find the den!

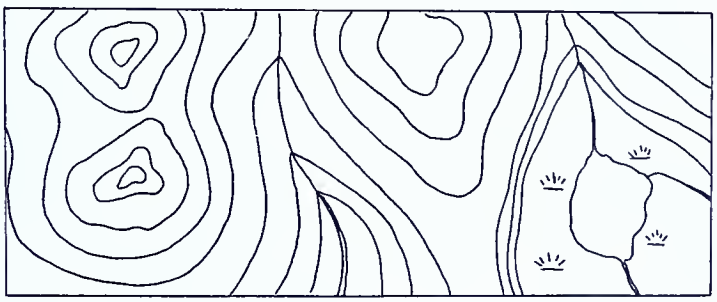
Scale Is a Basic Part

One of the basic parts of any map is the scale, which may be given as a ratio, graphically, or verbally. When the scale is given as a ratio, such as 1:62,500, it means that one unit (an inch for example) on the map is equal to 62,500 of the same units (inches) in the field. Thus, one inch is equal to 62,500 inches means that one inch equals one mile. (Although a mile has 63,360 inches in it, 62,500 inches are used because it is a more convenient figure to work with when writing multiples of one mile, the small difference being negligible for all practical purposes.) Consequently, if a map has a scale of one inch equals four miles it would be indicated as a ratio of 1:250,000. Most maps also show a graphic scale, similar in appearance to a ruler, which is based on the map-to-field ratio. When a scale is given verbally it is merely stated in words, such as "one inch equals two miles."

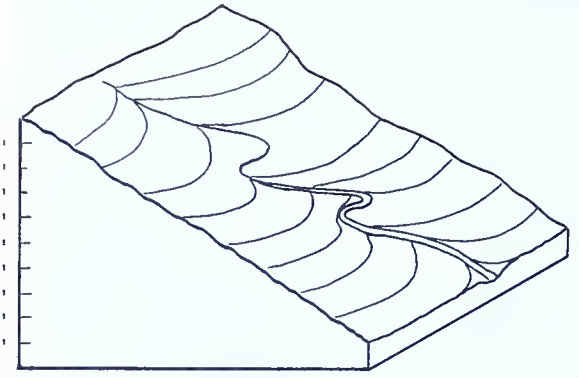
The topographic map differs from a planimetric map, like the familiar road map, in that it shows the relief of the land—mountains, valleys, cliffs, etc.—by the use of contour lines. By definition, contour lines are lines which connect points of equal elevation. What this means is that if, for example, a trail happened to be on a contour line it would neither gain nor lose elevation, it would be level. Furthermore, if that particular contour line was, say, 500 feet above sea level and the trail was on it for one mile, then for that one mile a hiker on the trail would be walking at a constant elevation of 500 feet.

Naturally, a single contour line can-

THE TOPOGRAPHIC MAP DIFFERS from a planimetric map, like the familiar road map, in that it shows the relief of the land—mountains, valleys, cliffs, etc.—by the use of contour lines. The contour lines below show the relief of the mountain and valley area drawn underneath.







A STREAM FLOWING DOWNHILL cuts back into the slope in an attempt to reduce the gradient of its channel. Thus, the "V's" of the contour lines which cross it point upstream.

not show a mountain or any other feature of the terrain on a map; but the topography can be determined by comparing differences in elevation of many contour lines. However, contour lines are not drawn for every single foot of elevation because, unless the terrain was extremely flat, they would have to be placed so close together on the map that they would be indiscernible. Contour lines are always the same vertical distance apart; this distance, called the "contour interval," depends upon the steepness of the terrain. A map with a contour interval of 5 feet would only show contour lines with a 5-foot difference in elevation as, for example, 20 feet, 25 feet, 30 feet, . . . 250 feet, 255 feet, 260 feet. If the contour interval is 20 feet then the spacing will be such as 20 feet, 40 feet, 60 feet, . . . 460 feet, 480 feet, 500 feet. In a very mountainous region the contour interval might be 200 feet or more, while a one-foot contour interval may be required to adequately show the relief of a flat coastal plain. The contour interval is always given on the topographic map.

Index Contours

To make map reading easier, elevations are printed on every fourth or fifth contour line; these "index" contour lines are printed a little heavier so as to be easily distinguishable.

A contour line is, of course, an imaginary line seen only on a map. There is, however, an example in nature which provides a good illustration of contour lines. When the water level of a closed body of water, such as a lake, is lowered, leaves, sludge, mud, etc., that are washed on shore form a ring along the water's edge. If the water level is lowered intermittently, perhaps a foot at a time, each consecutive ring will be a foot apart in elevation. Thus, because the surface of a still body of water is level, contour lines with an interval of one foot are marked along the shoreline.

Contour lines are the criteria by which slopes, plains, mountains, hills, direction of stream flow, etc., can be determined on a topographic map. Elevations on a steep slope are piled almost on top of each other and when viewed from above, as is done on a map, they appear close together. Conversely, a flat surface has elevations spread more horizontally and on the map they are widely spaced. Consequently, when contour lines are spaced close together the slope is steep, and when they are far apart the slope is gentle.

Lines Like Contour

If contour lines wriggle across a map in a meandering curlicue fashion the terrain is going to be quite similar, that is irregular. Broadly sweeping contour lines indicate a more regular terrain.

As a stream flows from a higher to a lower level it carves into the slope and attempts to reduce the gradient of its channel. This grading process is shown by contour lines. A contour line does not run straight across a stream but first veers upstream, crosses the stream, and then heads back toward its original trend. On a map this appears as a "V," with the point of the "V" pointing upstream. Hence, in order to determine which way a stream or river flows find a contour line which crosses over it, the "V" will point upstream. Once again, the steepness of the stream's banks, as well as its channel, can be determined from the spacing of the contour lines.

Contour lines are also used to show

depressions in the surface of the land. Depression contours, as they are called, are easily recognized by the small spine-like lines that are perpendicular to the contour line and which point into the depression. Since a depression is like a bowl these contour lines are always closed, that is, on a map they appear somewhat as irregular circles or loops. The same contour rules hold for depression contours, the only difference is that this type of contour line indicates such features as pits and craters.

At several places on the map elevations will usually be marked, apart from contour line elevations. These will range from spot elevations to precise control stations; the symbols for them will be given in the map legend.

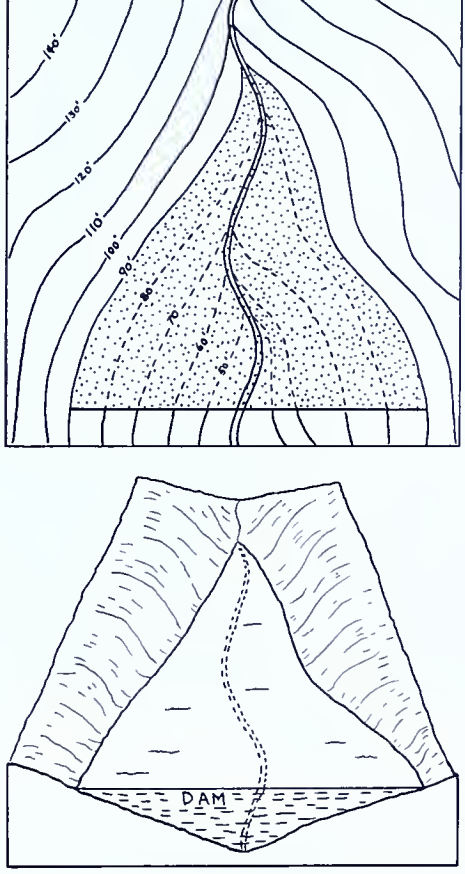
A compass needle does not, as might be expected, always point to true north—it points to magnetic north. Consequently, the variation between the geographic, or true, north and magnetic north is given on the map as the magnetic declination. If the magnetic declination is 9° to the right (east), then the compass needle points 9° too far to the right and true north lies 9° to the left (west). However, for rough field work the declination, if it is not too great, can usually be disregarded. Higher-priced compasses have an adjustment which enables the compass face to be moved, thereby correcting the instrument for direct reading.

Symbols for boundary lines, swamps, mines, bridges, roads, etc., are given in the legend of a topographic map. Man-made features, such as railroads, buildings, and cities are shown on the map in black; terrain features, such as levees and contour lines, are printed in brown. Lakes, streams, marshes and similar water features are shown in blue; sometimes, but not always, wooded sections are colored green.

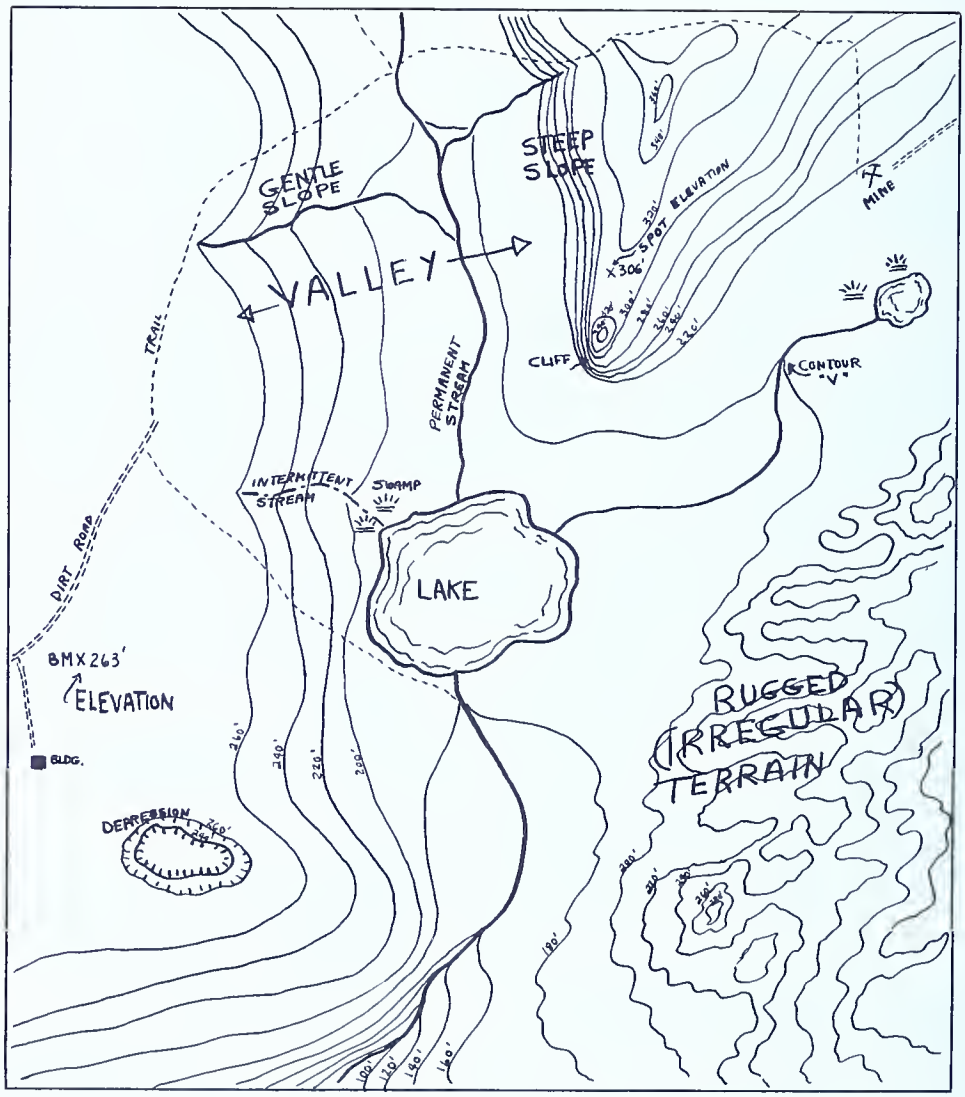
Gives Other Information

Aside from illustrating the relief, a topographic map also furnishes information about areas, grades and volumes. One practical application of such a map is in determining the extent of inundation when a dam is filled to capacity, and in calculating the volume of water stored behind it. Suppose, for example, that a stream, located in a relatively narrow valley, is blocked by a dam. If the top of the dam is level it should join both sides of the valley at the same elevation. A dam built, say, to the 90-foot contour line would flood the area between that elevation and the stream—provided that there were no underground leaks. The volume of water held by the dam could then be calculated.

Distances on a map can be deceiving. That one and a half mile trail, as measured on the map, may turn out to be more than two miles when all the slopes are taken into account—this is a point to be kept in mind by the overzealous planner.



IF A DAM WAS BUILT across the stream, as shown, the area between the 90-foot contour lines and the stream would be inundated (stippled area), provided that the dam held water.



Scale: 1:31,250; one inch equals one-half mile
Contour Interval 20 feet

A composite topographic map showing some of the more common terrain features.



Approximate Mean Declination, 1959

Much more can be written about the things a map can tell, but after the fundamentals are discussed map reading becomes more specialized. Books on geology, geography, and civil engineering will furnish information on more specific applications of maps. For most persons, though, an introduction to the fundamentals of reading topographic maps will be sufficient.

Topographic maps are for sale by the U. S. Geological Survey, Washington 25, D. C. An index showing the maps available of Pennsylvania may be obtained by request. The maps, called quadrangles, are named after a city or other prominent feature in the area, such as the Shenandoah quadrangle or the Mt. Whitney quadrangle. A map costs just a little more than a pack of cigarettes—a bargain when one considers its potential value. Another source of maps is the U. S. Army Map Service, Washington 25, D. C. In addition to coverage of the U. S., they also have maps of foreign countries.

It's the Sneezen Season

By Sylvia K. Bohlayer



PGC Photo by Harrison

A-A-A-CHEW! It's hay fever season all over Pennsylvania and the estimated half million sufferers in the state are miserable. The State Department of Health and the Department of Highways are attempting to aid these people by removing the greatest cause . . . ragweed.

PENNSYLVANIANS who suffer from "hay fever" or are allergic to ragweed pollen may find help or eventual relief from their problem with the Pennsylvania Department of Health's new research and eradication campaign.

If you sneeze violently all during August and September, you are one of an estimated half million individuals in the Keystone State who are potential hay fever sufferers. This is four to seven per cent of the total population.

The cost of ragweed control and of fighting the discomforts of allergies with doctor's bills, drugs, air conditioners and, in many cases, the cost of vacationing or moving to pollen free areas, is enormous. Much of this may be alleviated if the program of educating communities and enlisting their cooperation in control measures is successful. The Air Pollution Control Division of the Department of Health will begin its campaign this year.

Queries from tourists who wish to avoid "hay fever regions" and from residents who suffer from it led to a ragweed sampling program throughout Pennsylvania by the Air Pollution Control Division in 1961. Twenty Pennsylvania communities agreed to participate in this program, designed to obtain information on the concentrations of ragweed pollen in various areas of the Commonwealth.

The results of the 1961 pollen counting showed that the Pocono Mountains and the northcentral tier of counties have a relatively low ragweed pollen count. Southern and western counties have the highest count. The reason for this variation is that most of the large cities and heavily populated areas are located in the southern and western counties, while much of the Poconos and northern counties is forested.

Ragweed pollen is transported on the wind but the plant flourishes principally in metropolitan areas, on upset land, or where there is little or no other vegetation. It can't stand competition from other plants. There are two varieties — the dwarf, which reaches about 15 inches in height, and the giant, which grows from five to 15 feet. The pollen which is heavy, does not travel far and if ragweed is wiped out in one area there is little danger from more floating in from outside a five-mile radius.

No one index level can be chosen as the level below which a community is "pollen-free." Bradford, East Stroudsburg and State College had a ragweed pollen index of less than 20. Erie, Lancaster, Chambersburg, Washington, New Castle and Harrisburg had indexes of more than 40.

It was found that the first ragweed pollen grains appeared during the first or second week of August, and the peak concentration occurred either during the last week of August or the first week in September. The last grains were generally found during the last week in September.

The Division of Sanitation and the Division of Air Pollution Control will advise communities on the best methods to use and try to stimulate interest in control on a local level with descriptive literature. Cooperation by communities will be necessary for any kind of success.

There is no permanent remedy, but three ways have been found which, applied regularly, curb the plant's growth. Spraying 2-4D helps build up the turf and kills weeds. Soil sterilants kill all vegetation and are frequently used on roadsides. The third method is cutting before the ragweed pollinates.

The Pennsylvania Department of Highways spent $100,000 last year in spraying weeds (with soil sterilants) along the highways, and a total of 4,000 miles of weed growth along guard fences was sprayed; $150,000 was spent for herbicide spraying of 12,000 miles of highway. Every mile of highway right-of-way is mowed at least once a year, which cost over $1,000,000 in 1961.

Many communities have ordinances against weeds, and Kane, Pa., has an annual spring campaign to eliminate ragweed with spraying and cutting. Prizes are offered to youngsters who pull the largest amount of the offensive growth. The Pocono area also attacks it vigorously, since it specializes in the tourist trade.

(Reprinted from PENNSYLVANIA'S HEALTH Magazine, Vol. 23, No. 2, Summer, 1962.)

THE HAY FEVER SUFFERERS' ENEMY . . . RAGWEED. This very common little weed looks harmless as it grows in the state's many cornfields and roadsides. But ask the hay fever victims how harmless it is. The State Department of Health is seeking to aid hay fever sufferers with their new research and eradication campaign.

PGC Photo by George H. Harrison



Prescription for Whitetails

By Sam Kern
Supervisor, Food and Cover Section

THE white-tailed deer has a great impact on Pennsylvania's economic and recreational life. While deer have provided much pleasure and healthful recreation, they have also been responsible for more damage than many people realize. Because of this, the management of the deer herd has caused controversy equaled by no other wildlife problem.

The method or degree of management advocated by an individual usually reflects the manner in which that person is affected by the herd. Orchardists, farmers and foresters, hard hit by foraging deer, advocate a reduction in the size of the herd. Motorists who have smashed a new car in a highway collision with a deer would like to see the entire herd eliminated. Some of our dyed-in-the-wool deer hunters, who fail to recognize the need for deer herd management, are violently against herd control through antlerless deer seasons and thereby hope to double or triple the size of the population. There are other Pennsylvanians who have no ideas on the matter and therefore do not support any management theory.



Photo by Leonard Lee Rue, III

DEER HERD MANAGEMENT has caused controversy equaled by no other wildlife problem. The immediate need is a procedure and management plan that will coordinate all of the forces capable of altering the situation and hasten the recovery of the deer range.

PGC Involved

The Pennsylvania Game Commission became involved in the problem of erupting deer numbers, serious damage complaints and the need for control of deer numbers almost forty years ago. From that time until rather recently any regulatory measures have aroused great opposition from hunters and received only token support from farmers, the wood using industry and other groups. Experience has shown that many of the hunters who strongly criticize the Commission's deer management program actually know very little about deer. These same hunters do not recognize or care about the relations of deer to forests, agriculture, and other game species.

As a consequence of previous ill-advised opposition to herd control, deer management has been largely a matter of too little, too late. While the Pennsylvania Game Commission's recent deer management program is beginning to show signs of improving our deer range, this program came too late to save the seedlings and sprout growth which had already disappeared from our forests. As food conditions deteriorated, the quantity and quality of deer in the "big woods"



Photo by Hal H. Harrison

HERE LIES THE CHALLENGE! Forest lands, whether in public or private ownership, could, under more intensive management, be improved for the production of wood products, deer food and small game habitat. Such a program of forest management, which would benefit both forest and wildlife, would call for close cooperation between landowners, wood using industries, and public agencies.

areas declined. In addition, populations of forest small game – grouse, hares and cottontails, have shown an accompanying decline because of poor cover conditions.

The lack of sprout and seedling growth in our forests should be of great concern to everyone. Thousands of acres of forest areas are virtual biological deserts due to excessive deer browsing pressure. Many desirable herbaceous, shrub and tree species have been overutilized by deer to the extent that they have been eliminated. Growers of wood products find it impossible to practice forest management and inferior tree species have taken over in many of our better forest sites.

Placing of responsibility for this situation is not as important as undertaking corrective measures. The immediate need is a procedure and management plan that will coordinate all of the forces capable of aiding in altering the situation and hastening the recovery of forested areas–the actual deer range.

Here lies the challenge! Forest lands, whether in public or private ownership, could, under more intensive management, be improved for the production of wood products, deer food and small game habitat. Such a program of forest management, which would benefit both the forests and wildlife, would call for close cooperation between land owners, wood using industries and public agencies. History tells of similar challenges being met successfully. Cooperation has resulted in solutions to many problems. How can pulpwood users, lumber producers and other wood using industries contribute to better forest conditions? – By greater diversity of cutting areas? By different management from a silvicultural standpoint? By increased use of green wood? By greater consumption of wood harvested in Pennsylvania? By other means which might be developed through a cooperative approach?

The cooperation and collaboration of private land owners, wood using industries and conservation agencies could result in large acreages being treated for timber stand improvement, both on private and public lands.

The results would be: increased growth in healthy trees, increased sprout and seedling production, increased wood products, increased numbers of wood using industries, increased browse for deer and more food and cover for other game. Is this a worthwhile goal as well as a challenge to all concerned?



PGC Photo by Bob Parlaman

CANADA GEESE WILL BE HARVESTED under controlled shooting at the Pymatuning Goose Management Area in Crawford County for the first time this fall. Interested hunters are requested to read the information below for the details on how to apply for a reservation.

Controlled Shooting Area to Open This Fall

Commission Announces Regulations for Goose Management Area

Special regulations for the Pymatuning Goose Management Area in Crawford County were announced last month by the Pennsylvania Game Commission. The 7,672-acre tract of state-owned land near Linesville has been divided into three distinct management units—a 3,320-acre propagation area on the upper Pymatuning Lake and surrounding land, a 2,452-acre public hunting area, and a 2,000-acre controlled shooting area. There are no changes in the regulations concerning the propagation area and public hunting area but for the first time this fall, hunting will be by advance reservation only, on the controlled shooting area.

According to M. J. Golden, Executive Director of the Commission, 40 blinds will be available to hunters on the controlled shooting area this fall. The blinds must be reserved in advance but each sportsman holding a reservation may take up to three hunting companions, of his personal choice, with him into the blind. "We plan to open the blinds on Monday, Wednesday, Friday and Saturday of each week," Golden said, "and they may be occupied until 12:00 noon. The daily goose limit will be one per person, but hunters may also shoot ducks from the blinds if they wish. There will be no fee for the use of the blinds."

Any sportsmen desiring to hunt on this controlled shooting area must fill out and mail an official application blank to the Pymatuning Goose Management Area, R. D. 1, Hartstown, Pa. The official forms are available from any Game Commission office. Applicants will be accepted between September 1 and October 1. Each applicant is requested to list two preferred dates on which he would like

to hunt. A drawing, by random, will be held for reservations on October 5 and successful applicants will be notified of the date of their reservation for hunting.

If the hunter desires, he may use a retrieving dog, but the dog must be under control at all times.

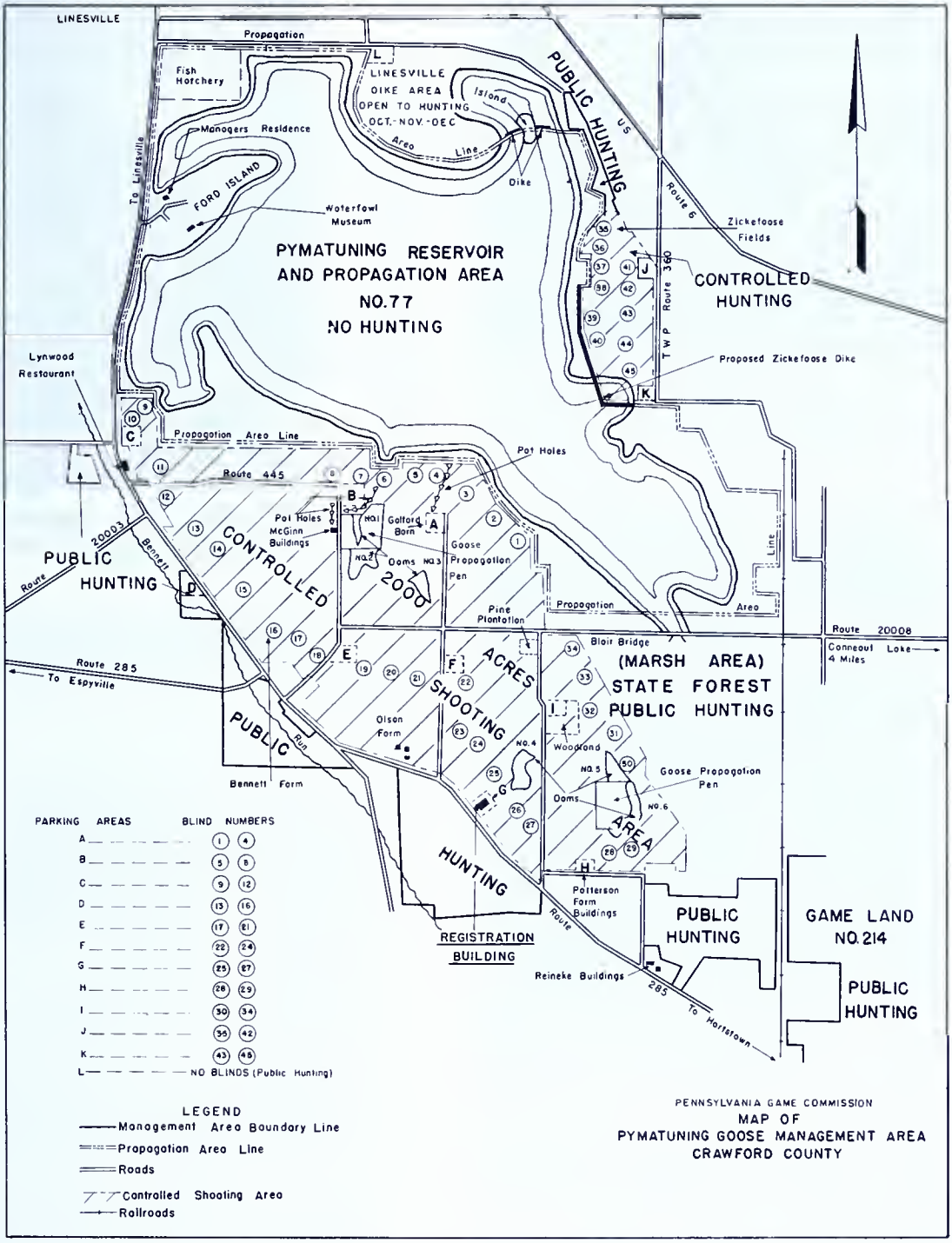
By limiting the number of hunters on the controlled area, the Commission hopes to increase hunter success and improve the quality of goose hunting. During the past two years, intensive development work has been underway on the area to improve conditions for wild waterfowl. Commission work crews have constructed 15 dams and dikes to create improved water and food conditions, while more than 1,000 acres have been planted to agricultural crops attractive to ducks and geese. More than 12,000 geese and 15,000 ducks used the area last fall.

POLICIES, RULES AND REGULATIONS CONCERNING APPLICATIONS AND RESERVATIONS FOR HUNTING ON CONTROLLED AREA

1. One reservation per hunter in any season, unless insufficient applications are received.
2. Official application form shall be used in requesting reservations. Any request or application *other than official form* will be rejected.
3. An individual may submit only one application. Submitting more than one application *voids* all applications.
4. Applications will not be accepted prior to September 1 and not after October 1. Applications postmarked before September 1 or after October 1 will be rejected.
5. Reservations will be assigned by random drawing from valid applications. Drawing for reservations to be held October 5.
6. Reservations are not transferable. The person named on the reservation must present the reservation in person at the Registration Center on the reserved date for assignment of blind. A reservation entitles the holder to a maximum of three (3) guests, who must be present and register in person.

HUNTING RULES AND REGULATIONS, CONTROLLED SHOOTING AREA

1. Entering and hunting shall be by permit only. Hunting permits, held by reservation, shall be issued on hunting days at the Registration Center. Each hunter shall check out at the Registration Center and surrender in person his permit at the conclusion of hunting. Deadline for check out is 1:00 p.m.
2. Hunting is permitted only in the morning from the beginning of legal shooting hours to 12:00 noon on Monday, Wednesday, Friday and Saturday.
3. Geese and ducks are the only legal game; hunting, shooting or taking game birds or animals, other than geese and ducks, is prohibited.
4. Geese and ducks may be retrieved and cripples may be pursued and shot within 100 yards of assigned blind only. Any other hunting or walking around outside the blind is prohibited.
5. Removal of geese and ducks from blind prior to vacating blind for check out is prohibited.
6. Blind must be vacated when party obtains limit of geese.
7. Shooting is permitted only from assigned blind. Entering a closed blind or any blind other than that assigned is prohibited.
8. Shooting on, along or from any road or parking area is prohibited.
9. Shot size larger than No. 2 is prohibited.
10. Dogs may be used but must be under control at all times.
11. Permits may be cancelled or denied for infraction of the Game Law, Federal regulations, the above rules and regulations, or those established for the Pymatuning Goose Management Area.



HELPFUL REMINDERS TO ASSIST YOU ON THE CONTROLLED AREA

1. Do not attempt to shoot at geese and ducks out of range, let them get in close. Use decoys and goose calls for best results.
2. You may use only roads which are marked for access to parking area nearest your blind. Driving across fields to and from blinds is prohibited. See map for location of parking areas and blinds.
3. Decoys may be rented at Registration Center.
4. Blinds to be assigned each morning by drawing. Unclaimed reservations will be assigned by drawing prior to shooting time.
5. Hunters must keep their guns unloaded at all times, except while occupying assigned blinds.



QUEEN ANNE'S LACE (Daucus carota): Plant is from one to three feet high. Flowers appear in compound umbels, white in color with a few dark purple ones in center. Leaves are fern-like.



SELF-HEAL (Prunella vulgaris): Plant is seldom more than ten inches high. Purple flowers are two-lipped and borne on one short, cylindric spike.

MOTH-MULLEIN (Verbascum blattaria): White or yellow flowers bloom more or less in groups on slender stem two to four feet high.





DANDELION (Taraxacum officin composed of a hundred or more to ten inches high.

EUROPEAN W

By L

Phot

Before you start pounding your NEWS is going to the girls—or wo the world has to do with the na ought to be interested in knowin are good friends with a farmer, during the summer or autumn European wild flowers!

The species illustrated here are came from Europe. All of them a along roadsides that they are clas

Indeed, like most weeds, these in all the wrong places across Pen not only be eager to help you pi pick bouquets for all of your frie

At any rate, you will seldom ne wild flowers that are definitely lis that you might destroy such plan

Actually, having operated a gra as well as anyone else that weeds mowed down several times in a blooming as though nothing had

It should be understood, of cou any sort does not apply on State

In fact, the whole idea of pic However, in the case of weeds su frequently a question of deciding allow them to beautify the living with seeing them destroyed in



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ARE PRETTY

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owers ought to be discouraged.
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y the wholesale use of sprays.



BLACK MUSTARD (Brassica nigra): In spite of its name, flowers are bright yellow and numerous. Plant is often several feet high and branching.

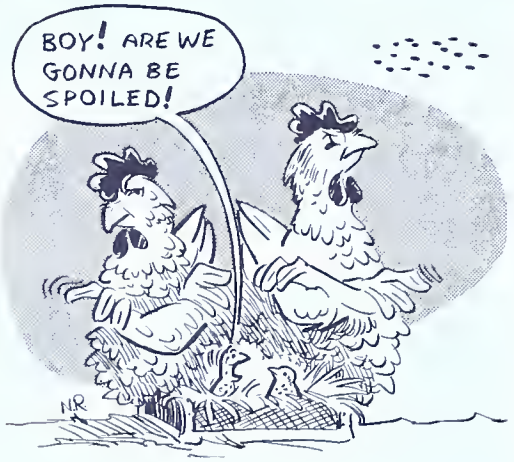


BURDOCK (Arctium minus): Plant is often shrub-like with numerous flower heads having lavender florets and bracts bearing hooked prickles.

BUTTER-AND-EGGS (Linaria vulgaris): Flowers are yellow with orange palate. Leaves resemble blades of grass.



FIELD NOTES



Fight for Adoption

LEHIGH COUNTY—From time to time we are called upon to pick up newly hatched pheasant chicks that have been found by residents of Allentown suburbs after the hen has been killed by an automobile or by mowing operations. When this happens, the chicks are taken to Deputy Robert Miller who has two broody Leghorn hens who readily accept the orphan chicks. Recently we put two one-day-old pheasant chicks in the coop and it was interesting to see the two old hens fighting to see who was going to adopt the new arrivals. Finally it ended with both hens in the same nest sitting on the two small chicks.—District Game Protector Edward F. Bond, Allentown.

No Water—No Food

SOUTHWEST DIVISION — Dry weather conditions throughout most of the Southwest Division during June has materially reduced growth on clover strips and development of blackberries, raspberries, etc. — Land Management Assistant Gilbert L. Bowman, Ligonier.

Disastrous Crash Landing

GREENE COUNTY—Many people, as well as myself, have enjoyed watching birds in wondrous flight, courtship and combat. But this event I watched on June 19, under a bridge on Tenmile Creek, really had an unusual ending. Two song sparrows were exhibiting some amazing aerial maneuvering just inches above the water. One bird cut the water twice with its wings, but the third time was too much and the water held him. He quickly swam to a stone buttress, but the ledge was too slippery and the wet bird fell back into the water. I learned then that another creature was watching the entire scene. The moment the bird touched the water a large frog, quick as lightning, gulped the entire bird with only one inch of the tail remaining out. It took exactly twelve more minutes for the tail to disappear into the frog's mouth—District Game Protector Theodore Vesloski, Carmichaels.

Hats Off

SCHUYLKILL COUNTY — While driving on State Highway Route No. 72 in Schuylkill County, I observed a pheasant hen and her brood of chicks on the highway crossing from one side to the other. While this is not unusual, the fact that a large tractor trailer truck had stopped to let the mother hen and chicks cross the highway is unusual. My hat's off to the driver of this truck; I'm sure that he saved his hunting for this fall by not running through the flock of chicks and perhaps killing all of them with the big dual wheels of his truck.—Land Management Assistant Ralph L. Shank, Leesport.



Game Referee

JEFFERSON COUNTY — Last month as I was driving along in Oliver Township, near State Game Lands No. 31, I noticed a commotion some distance away in a hay field along the edge of the woods. I stopped the car and walked along the woods toward where this was going on. As I got closer I could see a red fox apparently jumping up and down, rolling around on the ground, and doing all sorts of acrobatic tricks. When I got within about 25 yards from the fox I could see another animal which was a full grown ground hog. I watched these animals fighting for at least ten minutes and I know they were both aware of my presence. Although I tried to referee this fight fairly, I still do not know which one won. Appearing to be disgusted with my presence, the fox went one way and the ground hog walked up on the log, shook himself, and went in his hole.—District Game Protector Robert Ellenberger, Punxsutawney.

In the Jungles of Philadelphia

MONTGOMERY COUNTY—When investigating the many wild animal complaints arising in the Philadelphia area it amazes me to no end the lack of knowledge our residents have when it comes to identifying our birds and animals of Pennsylvania, despite the fact that we have many programs on TV which deal with wildlife and many cartoons and pictures in newspapers of game birds and animals. Recently I was called upon to trap or kill by gun or poison, a wildcat which had migrated from the mountains—answer: a raccoon. A new housing development was recently in a state of hysteria over the reports of copperhead snakes —answer: common garter snakes. Beaver were chewing shrubbery on a piece of property which borders a small creek—answer: muskrat. Then to beat it all, I was called to remove a family of rabbits from a back lawn, because a housewife feared that these wild animals, which are considered wildlife, would maim her children. This woman explained that according to Webster's Dictionary the definition of "wildlife" is: being strong, violent, savage and ferocious.—District Game Protector Edward F. Sherlinski, North Wales.

Wise Old Crows

CLEARFIELD COUNTY — The crows in this area are getting pretty wise to calling, because several persons own electronic calls and that really puts the old-time crow call out of business. Unless you have a record to call with, the crows just sit on the other side of the hill and make fun of you.—District Game Protector Claude B. Kelsey, Troutville.



Crow Crash

BUTLER COUNTY—On the weekend of June 16, while traveling on Route No. 422 between Butler and Kittanning, I noticed the car in front of me was fast approaching three crows feeding on a rabbit on the highway. Needless to say my bet was that the crows would fly in time, but to my surprise they didn't. The car struck all three of them and after the air cleared from feathers, I observed three dead crows lying on the highway. This is the first time I have ever seen crows that were killed by a vehicle. Maybe they are losing their sense of timing! — Student Officer Donald C. Madl, Ross Leffler School of Conservation.

Who's After Whom?

MERCER COUNTY — A large female cat that belongs to Deputy Gearhart, of Transfer, has learned to let pheasants alone. The cat was molesting a pheasant hen and her brood when the hen took pursuit and kitty turned tail until the case ended with kitty high in a tree in Gearhart's front yard. The hen started back to her brood and the cat thinking things "A-OK" came down, so Mrs. Pheasant put kitty back on her perch again. The hen didn't bark but kitty meowed for help till the hen went back to her brood.—District Game Protector Arden Fichtner, Greenville.

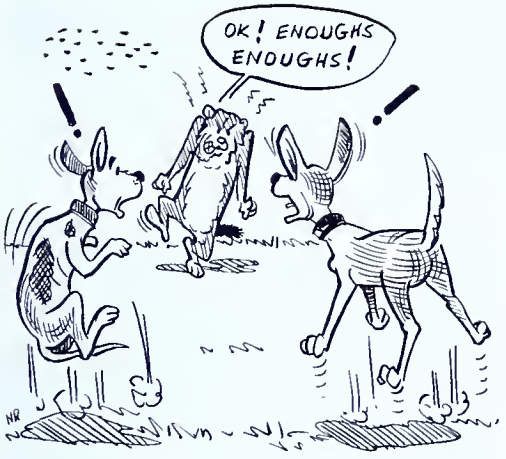


Fightin' Mama

INDIANA COUNTY—A sportsman from Clymer, Henry Balitski, while driving a fuel truck, observed a rabbit on the road as he was traveling down a hill. In order not to run over it when he came to the spot, he stopped. When he did so, a female grouse and her three chicks entered the road. The young became excited and flew. One landed on the hood of the truck, and walked back to the windshield to have a good look at Henry. As Henry reached out to remove the young grouse, it flew, thus causing the mother to become enraged. She then went into action and left no doubts in Henry's mind that she was ready to take on Henry, his gas truck and all comers, if necessary, to protect her young. If only all mothers could have observed Mrs. Grouse in action, it would probably be a better old world. —District Game Protector John A. Badger, Indiana.

Wildlife Witness

BEAVER COUNTY—On June 27 I had the pleasure of accompanying H. S. Williams to the training school at Brockway. The purpose of this trip was to make tapes with some of the staff and students to be used on Mr. Williams' radio program on station WBVP in Beaver Falls. After the tapes were made D. E. Miller, Superintendent of Training, offered to take Mr. Williams and me on a tour of the Game Lands surrounding the school. Generally when you want to show someone the fruits of your labors it never works out, but this time it was different. Mr. Williams was treated to the sight of a flock of wild turkeys in a food plot, a medium size black bear utilizing a salt lick and numerous deer and ground hogs.—District Game Protector Harry E. Merz, Beaver.



Tough Chuck

ERIE COUNTY – Wilson Sheeve, Union City, reported watching two large dogs attack a woodchuck. The chuck soon demonstrated that he was no easy victim and went from the defensive to the offensive and ran the dogs away from his area. He then retreated to his den in great disdain.–District Game Protector Elmer Simpson, Union City.

Who Is Scrappy?

McKEAN COUNTY – On June 4, 1962, Gary Dahler, of Mt. Jewett, came to my headquarters to have two foxes probated for bounty. With the skins which were dried and ready to send in he also had a collar from one of the foxes. Attached to the collar was a short piece of chain, and the ring from the chain had been around the lower jaw of the fox. The chain, which was so tight Dahler had a hard time removing it from the fox, was almost worn into the jaw. The fox was killed on .May 24, 1962. The name Scrappy was inscribed on the name plate on the fox. It would be interesting to know who might have owned this animal and how long it has been since it escaped.–District Game Protector Robert H. Myers, Mt. Jewett.

Nasty Rabbits

BUTLER COUNTY – If the number of rabbit complaints are an indication of the population of rabbits and a forecast of the coming rabbit season, we should have a grand year on rabbits. I have had far more rabbit complaints this year in comparison to the other years I have been here.–District Game Protector Jay Swigart, Butler.

Masked Prowler

ALLEGHENY COUNTY – During the late evening of June 7, the Carnegie State Police Sub Station had an unwanted visitor. It seems a large raccoon wandered into the barracks. Trooper Hoover was awakened from a sound sleep, turned on his room light, and saw to his amazement the raccoon in his room. With the aid of Troopers Steinmeyer and Micarcin the raccoon was chased into the bathroom where it tore some of the tile from the wall. It also left dirty footprints on beds in the barracks. After some fifteen minutes Trooper Steinmeyer, using a broom, chased the raccoon out the door. At last reports the unwanted visitor was reported to be heading for the wilds.–District Game Protector James W. Way, Coraopolis.

Multi Mast

TIOGA COUNTY–All signs indicate that the mast crop in Land Management Group II in the Northcentral Division will be good. The fall supply of food for turkeys, squirrels and deer, from this source will be much better than a year ago. Also, fruits and berries will be producing well. Wild black cherry trees are setting fruit in many areas, but in others the cherries fell off soon after they had started to form and on these trees the fruit will be scarce.–Land Manager Gerald W. Cyphert, Westfield.



Chicken Thief Caught

FAYETTE COUNTY – Wilbur Townsend, of McClellandtown, related the following incident to me: About 5:00 a.m. on June 20 he heard a lot of commotion in his chicken house. When he investigated he met a large gray fox. Mr. Townsend called to his son for a shotgun, and finally shot the fox (a large female). This vixen had killed a total of thirty-four chickens and five near misses. Before she was interrupted, she had placed eight of the chickens in a neat pile by the closed door. The only exit (also her entrance) was a one-foot square hole ten feet from the ground above the door. – District Game Protector Michael Sarachman, Uniontown.

More Bounce to the Ounce

BUTLER COUNTY–One Saturday evening in May about 7:00, William Craig, of Harrisburg, was driving along a Marion Township road in Butler County when suddenly a deer leaped from a bank onto the roof of his car. The deer was struggling and banging all over the roof of the car, finally it came tumbling down on the hood, feet first, and then on to the gravel road. The deer landed on its side and kicked a while, then stood up, whirled around and then ran down through a field. There was little damage to the car except for a wrinkled sun visor and four hoof marks on the hood and front fender. He was glad he didn't have a convertible. – Land Manager Woodrow Portzline, Slippery Rock.

A Bed of Roses

BEDFORD COUNTY – It was brought to my attention, by Donald McFarland, of Breezewood, that for the second time in three years rabbits have made use of a small circular rose bed in the driveway of the Penn Aire Motel to raise a litter of young. The rose bed is located in the center of the driveway. It is planted with small rose bushes and devoid of any vegetation. Many people move around it every day both on foot and in automobiles. I think it is unusual for a mother rabbit to pick a spot in the midst of so much human disturbance when there is, what is commonly termed, good cover within one hundred yards.–Student Officer Dorsey R. Smith, Ross Leffler School of Conservation.

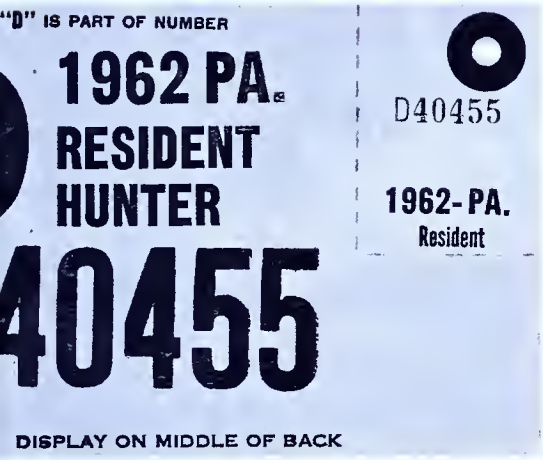
Sympathy Got Her

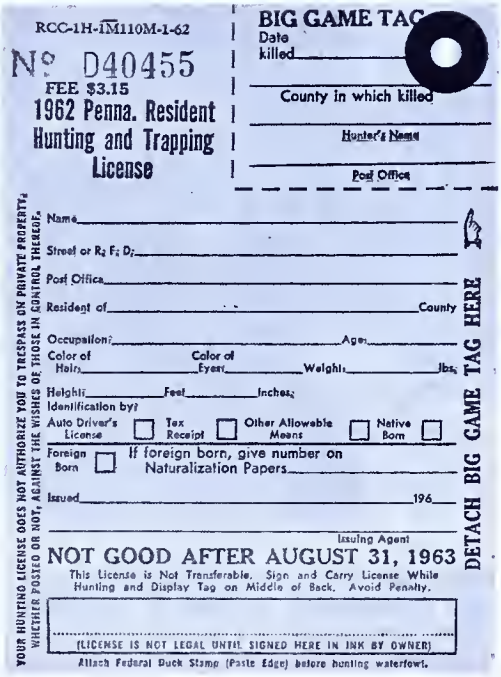
SOMERSET COUNTY – One day last month I was called by a Salisburg resident to remove a nest of young rabbits from her bean patch. When I picked up the young rabbits their loud squeals brought the mother rabbit on a quick run from her hiding place nearby. When the fretful antics of the mother cottontail were seen by the complainant, I was told that she didn't care how many beans they ate, just let them in their nest.–District Game Protector Robert H. Muir, Meyersdale.

Changing Your Address?
Don't Forget GAME NEWS

The Post Office will not forward copies unless you pay extra postage and we cannot replace lost copies. SO PLEASE . . . at least six weeks before the first issue to go to the new address, send us your name, new address including postal zone, and your old address. Mail to GAME NEWS, Pennsylvania Game Commission, Harrisburg, Pa.







THE NEW LOOK appears on the 1962-1963 Pennsylvania Resident and Nonresident hunting license. The license tag (above) is on the reverse side of the license certificate (right). Note that the big game tag this year appears in the upper right-hand corner. This tag should be separated from the license on the perforated line only after killing a big game animal. Hunters are asked to use this big game tag for deer and to use a self-made tag for a bear kill.

Hunting License Streamlined

The 1962-1963 Pennsylvania Resident and Nonresident hunting license received a major change in design.

This year, the license has been streamlined with the license certificate, license tag, and big game tag all appearing on the same card. The tag appears on the reverse side of the certificate with the big game tag located in the upper right-hand corner.

The big game tag should be separated from the license on the perforated line only after killing a big game animal. Hunters are asked to use this big game tag only for deer and a self-made tag for a bear kill. The big game tag must be detached from the license and affixed to the kill before moving the animal or within one hour after the kill.

As in the past, the bear-deer report card is still connected to the license and must be used by successful big game hunters to report their kills.

Hunters are requested to use a license holder in order to protect the license.

The 1962-1963 license is now available at County Treasurer offices and other authorized license agents. On September 1 the 1961-1962 license becomes invalid.

The Game Commission reminds hunters that they must sign their new license before it is valid.



PGC Photo by Will Johns

STUDYING RECOMMENDATIONS FOR SEASONS AND BAG LIMITS at the June 23 Game Commission meeting in Harrisburg are (left to right) Executive Director M. J. Golden, Pennsylvania Federation of Sportsmen's Club's Game Committee Chairman Robert Fasnacht of Ephrata, Commissioner Nicholas Biddle and Commission President James A. Thompson.

Game Commission Sets Season, Bag Limits

Hunting seasons and bag limits on mourning doves, woodcock, Wilson's snipe, rails and gallinules were announced recently by the Pennsylvania Game Commission. Executive Director M. J. Golden reported the number of hunting days and the bag limits on these migratory game birds will be the same this year as they were during 1961.

The 1962 hunting season on mourning doves will open at 12:00 noon, Eastern Standard Time, on September 1 and close at sunset, November 9. Hunters may bag no more than 12 birds daily and, after the first day, may possess no more than 24 birds. Shooting hours throughout the season are 12:00 noon to sunset, EST. Golden pointed out that spring surveys of mourning dove breeding populations in the eastern states indicated a 3 per cent drop but because of careful management, overall population members of these popular game birds remain high. Game protectors estimated that more than 114,000 mourning doves were harvested by Pennsylvania hunters last year.

Woodcock may be hunted from October 13 to November 21 with a daily bag limit of 4 and a possession limit of 8. Shooting hours will be from sunrise to sunset. The spring census conducted by the U. S. Fish and Wildlife Service indicated a 3 per cent decrease in breeding pairs but no significant change in total population. Last year Pennsylvania game protectors estimated a hunter harvest of over 10,000 woodcock throughout the state, with most hunting pressure centered in northeastern, northcentral and western Pennsylvania.

The open season on rails and gallinules will be September 1 to November 9, with daily bag limits of 15 and possession limits of 30. The one exception is the Sora rail, on which both the daily bag and possession limits are set at 25. Shooting hours on these birds are sunrise to sunset. The hunting season on Wilson's snipe was set as October 1-30, with a daily bag and possession limit of 8.

Golden pointed out that on October 27, the opening day of the 1962 small game season, no wild bird or animal may be hunted in Pennsylvania prior to 8:00 a.m., EST. He also warned that shooting hours on woodcock, rails, gallinules and snipe may be set back to 12:00 noon on the opening day of the waterfowl season which will be announced soon by the Fish and Wildlife Service.

SUMMARY

1962 SEASONS AND BAG LIMITS
DOVES, RAILS, GALLINULES, WOODCOCK, SNIPE

Species	*Open Seasons*		*Daily Bag Limits*	*Maximum Possession Limits*
	First Day	*Last Day*		
Doves	Sept. 1	Nov. 9	12	24
Sora	Sept. 1	Nov. 9	25	25
Other Rails and Gallinules	Sept. 1	Nov. 9	15	30
Wilson's or Jacksnipe	Oct. 1	Oct. 30	8	8
Woodcock	Oct. 13	Nov. 21	4	8

SHOOTING HOURS

DOVES—12 Noon, EST, to Sunset.

RAILS, GALLINULES, SNIPE, WOODCOCK—Sunrise* to Sunset (*Except on October 27 when the opening hour will be 8:00 a.m., EST, and possibly another opening hour on the first day of the 1962 waterfowl season).

MISCELLANEOUS REGULATIONS

★FEDERAL MIGRATORY BIRD HUNTING STAMP ("DUCK" STAMP) *NOT REQUIRED* TO HUNT THESE SPECIES.

★BOW AND ARROW, SHOTGUN PLUGGED TO NO MORE THAN 3-SHELL CAPACITY ARE LEGAL; RIFLES CANNOT LEGALLY BE USED.

★NO HUNTING ON SUNDAY.

INDIVIDUAL STATE GAME LAND MAPS AVAILABLE

Maps covering individual State Game Lands are now available from the Pennsylvania Game Commission.

Some persons interested in acquiring these maps were under the misapprehension that one map covered all the Game Lands. This is not the case. The maps feature each State Game Land on a separate sheet.

Persons interested in having these maps should specify which State Game Land they desire, listing number and county in which the area is located.

Each map costs $.75 and shows courses and distances of boundary lines, locations of main streams, roads and other data of interest to sportsmen, surveyors, lumbermen, utility companies, etc.

Send check or money order to the Pennsylvania Game Commission, Harrisburg, Pa.

Pennsylvania Official 1962 Open Season and Bag Limits

The Pennsylvania Game Commission established the seasons and bag limits below for resident game and fur bearers for the 1962 hunting license year which begins September 1.

SMALL GAME

	Daily Limit	Season Limit	DATES OF OPEN SEASONS First Day	Last Day
Rabbits, Cottontail (not more than 20 in combined seasons)	4	20	Oct. 27 Dec. 26	Dec. 1 AND Jan. 1, 1963
Squirrels, Gray, Black and Fox (combined) (not more than 30 in combined seasons)	6	30	Oct. 27 Dec. 26	Dec. 1 AND Jan. 1, 1963
Ruffed Grouse (not more than 10 in combined seasons)	2	10	Oct. 27 Dec. 26	Dec. 1 AND Jan. 1, 1963
Wild Turkey—Counties and Parts of, not listed below	1	1	Oct. 27	Nov. 10
—Counties, and Parts of, listed below*			Oct. 27	Nov. 24
Ring-necked Pheasants, males only	2	8	Oct. 27	Dec. 1
Bobwhite Quail	4	12	Oct. 27	Dec. 1
Hares (Snowshoe Rabbits)** (certain counties closed)	2	6	Dec. 26	Jan. 1, 1963
Raccoons (hunting or trapping)	Unlimited		No close season	
Woodchucks (ground hogs)	Unlimited		No close season	
Grackles	Unlimited		No close season	
Squirrels, Red (closed Oct. 1 to 26, inclusive)	Unlimited		All months except Oct. 1-26	

BIG GAME

Bear, over one year old, by individual	1	1	Nov. 26	Dec. 1
Bears, over one year old, by hunting party of three or more	2	2	Nov. 26	Dec. 1
Deer, Archery Season, any deer	1	1	Oct. 1	Oct. 26
Deer, Male with 2 or more points to an antler or a spike 3 or more inches long			Dec. 3	Dec. 15***
Deer, Antlerless			Dec. 17***	only

FUR BEARERS

Skunks and Opossums	Unlimited		No close season	
Minks	Unlimited		Nov. 22	Jan. 20, 1963
Muskrats (traps only)	Unlimited		Nov. 22	Jan. 20, 1963
Beavers (traps only)—certain counties****	6	6	Feb. 9	Mar. 10, 1963
—remainder of state	3	3	Feb. 9	Mar. 10, 1963

NO OPEN SEASON—Hen Pheasants, Cub Bears, Elk, Otters, Hungarian Partridges, Sharp-tailed Grouse.

* *Wild Turkey Season*—Oct. 27-Nov. 24—in the Counties of Cameron, Centre, Clearfield, Clinton, Elk, Forest, Jefferson, Lycoming, McKean, Potter, Sullivan, Tioga, Union, Warren, and in those parts of Blair and Huntingdon Counties north of Route 22, and in that part of Mifflin County north of Route 22 west of Lewistown and north of Route 522 east of Lewistown, and in that part of Snyder County north of Route 522, and also in those parts of Bradford, Columbia, Luzerne, Montour, Northumberland and Wyoming Counties north and west of the North Branch of the Susquehanna River.

** *Hares (Snowshoe Rabbits)*—Counties Closed: Bedford, Blair, Cambria, Centre, Elk, Forest, Huntingdon, Jefferson, McKean, Somerset, Warren.

*** Except for Letterkenny Ordnance Depot Ammunition Area (Franklin County) where the season for Antlered Deer closes Dec. 14 and the season for Antlerless Deer is Dec. 15 and Dec. 17.

**** Counties of Lackawanna, Monroe, Pike, Susquehanna, Wayne and Wyoming.

Shooting hours for big and small game resident to Pennsylvania are 7 a.m. to 5 p.m., EST, every day of season except on the opening day of small game season, October 27, when hunting of any kind prior to 8 a.m., EST, is unlawful. One exception is the archers' deer season when the hours are 6 a.m. to 5:30 p.m., EST. The other exception is the hours for woodchuck hunting which are 6 a.m. to 7:30 p.m., EST, July 1 to September 30.

Game (including woodchucks and raccoons) may not be hunted on Sunday.

MIGRATORY GAME BIRDS

The seasons, bag limits and shooting hours for migratory birds will be announced later, upon receipt of the "framework" for these seasons from the U. S. Fish and Wildlife Service.

Game Commission Declares One-Day* Open Season To Hunt Antlerless Deer—December 17, 1962*

The Pennsylvania Game Commission, by resolution adopted at its meeting on June 23, 1962, and pursuant to authority conferred upon it by law, declared an open season for the hunting, taking and killing of antlerless deer (deer without visible antlers or horns), regardless of sex, size, age, or camp limit, except in Game Refuges or Propagation Areas (other than on any of the latter which the Commission may later specifically declare open to deer hunting). Antlerless deer will be legal on December 17, 1962,* throughout the entire Commonwealth (except as noted above), and on December 15 and 17 within the chain link fence embracing the Ammunition Area, Letterkenny Ordnance Depot, Franklin County. During this season antlerless deer may be hunted and taken only in the manner prescribed by the provisions of the Game Law and the resolution and regulations of the Commission.

The quota of Antlerless Deer Licenses for each county in 1962, as made available by action of the Commission, is as follows:

NUMBER OF LICENSES ALLOCATED FOR ISSUANCE BY EACH COUNTY TREASURER

County	*County Seat*	*No. of Licenses*	*County*	*County Seat*	*No. of Licenses*
Adams	Gettysburg	1,850	Lackawanna	Scranton	1,500
Allegheny	Pittsburgh	1,100	Lancaster	Lancaster	2,800
Armstrong	Kittanning	1,350	Lawrence	New Castle	1,000
Beaver	Beaver	1,000	Lebanon	Lebanon	1,450
Bedford	Bedford	3,600	Lehigh	Allentown	700
Berks	Reading	3,200	Luzerne	Wilkes-Barre	4,250
Blair	Hollidaysburg	2,150	Lycoming	Williamsport	5,400
Bradford	Towanda	3,600	McKean	Smethport	5,400
Bucks	Doylestown	2,300	Mercer	Mercer	1,450
Butler	Butler	2,100	Mifflin	Lewistown	1,800
Cambria	Ebensburg	2,650	Monroe	Stroudsburg	2,800
Cameron	Emporium	2,750	Montgomery	Norristown	1,800
Carbon	Jim Thorpe	3,900	Montour	Danville	700
Centre	Bellefonte	4,850	Northampton	Easton	1,100
Chester	West Chester	2,500	Northumberland	Sunbury	1,550
Clarion	Clarion	4,100	Perry	New Bloomfield	3,600
Clearfield	Clearfield	4,150	Philadelphia	Philadelphia	——
Clinton	Lock Haven	3,600	Pike	Milford	4,600
Columbia	Bloomsburg	2,850	Potter	Coudersport	7,000
Crawford	Meadville	3,700	Schuylkill	Pottsville	7,400
Cumberland	Carlisle	1,200	Snyder	Middleburg	1,150
Dauphin	Harrisburg	1,600	Somerset	Somerset	3,900
Delaware	Media	500	Sullivan	Laporte	4,250
Elk	Ridgway	8,550	Susquehanna	Montrose	3,800
Erie	Erie	2,100	Tioga	Wellsboro	5,050
Fayette	Uniontown	2,400	Union	Lewisburg	1,550
Forest	Tionesta	6,200	Venango	Franklin	3,850
Franklin	Chambersburg	2,300	Warren	Warren	8,000
Fulton	McConnellsburg	2,100	Washington	Washington	1,100
Greene	Waynesburg	950	Wayne	Honesdale	5,250
Huntingdon	Huntingdon	5,000	Westmoreland	Greensburg	2,500
Indiana	Indiana	3,450	Wyoming	Tunkhannock	1,850
Jefferson	Brookville	4,300	York	York	2,750
Juniata	Mifflintown	2,700			
				TOTAL	201,950

IMPORTANT—*Applications* for antlerless deer licenses will be available wherever hunting licenses are sold. DO NOT MAIL APPLICATION TO PENNSYLVANIA GAME COMMISSION OR DEPARTMENT OF REVENUE, HARRISBURG. Antlerless deer *licenses* will be available at County Treasurers' offices *only*.



ROBERT E. LATIMER



ROBERT D. REED

Bob Latimer Retiring From Commission Service

Robert E. "Bob" Latimer, Waterfowl Management Agent, retired from the Pennsylvania Game Commission on July 13 after 37 years of service. A native of Muncy, Lycoming County, Latimer joined the Commission on July 10, 1925, as an Assistant Game Protector in northcentral Pennsylvania. Later he became a state-wide traveling Game Protector and then a District Game Protector in Sullivan County. In 1946 he was promoted to Supervisor of the northcentral field division and since 1950 has been in charge of the Commission's state-wide waterfowl program. Under his supervision, mallard duck production has grown to 10,000 birds liberated each year and one of the largest captive Canada goose flocks in the nation has been established at the Pymatuning Waterfowl Management Area in Crawford County.

Latimer is a veteran of World War II and served as captain, U. S. Army, in the Asiatic-Pacific Theater. He fought through two major campaigns and was an advisor to Chinese forces fighting in Burma and China. He is married to the former Marguerite C. Moran, of Muncy Valley.

Bob Reed Retires With 28 Years of Service

Robert D. "Bob" Reed, Information Specialist in the Commission's Harrisburg headquarters, retired August 10 after 28 years of service. For the past 12 years he handled all news releases, including a Weekly Newsletter, and traveled extensively over the state speaking to sportsmen's clubs and other organizations. He also appeared on many TV and radio programs and was widely recognized as one of the Commission's finest public speakers.

A native of Petosky, Mich., Bob's Game Commission service started on January 16, 1934, as a Deputy Game Protector in Clearfield County. On April 17, 1936, he was promoted to Assistant Superintendent of the Game Commission's training school near Brockway and instructed the first student officer class to be graduated.

On April 1, 1947, he was promoted to Information and Education Assistant to the Supervisor of the Commission's Southwest Field Division, with headquarters at Ligonier. On May 23, 1949, he was promoted to Director of Public Relations, a newly created position in the Commission's executive office at Harrisburg. After a reorganization of the Commission's field force and staff in 1955, his job title changed to Wildlife Information Specialist.

York Ikes Dedicate New Club House

A 21-year-old dream became reality for the York Chapter of the Izaak Walton League of America on Sunday, June 17, when they dedicated their new two-story club house.

Under construction for a year and a half, the cement block structure was built by the members themselves.

Building committee chairman, William G. Koller, a local builder, gathered around him a group of chapter members engaged in the building trades and did the job. Among them were excavators, masons, plumbers, electricians, welders, painters, and carpenters. Pooling their skills and using their knowledge of material sources, these men were able to produce a modern fireproof building at a 40 per cent savings to the organization. Many hours of labor were provided by members themselves which was a vital factor in holding costs to a minimum.

The new building can accommodate chapter banquets using the modern kitchen in the basement. Provisions were also made to add a full-size indoor rifle range in the near future.

The building is located seven miles south of York on 95 acres of club-owned land with an additional 20 acres of leased land. A two-acre pond, stocked with bass and sunnies, provides excellent fishing.

The dedication ceremony featured Congressman-Waltonian George A. Goodling, State Senator Harry E. Seyler and Congressman D. R. Matthews of Florida who was the speaker. Representatives of all the conservation agencies and State Federation of Sportsmen's Clubs were present.

Five Pennsylvanians Pass Taxidermy Test

Five Pennsylvanians have just qualified to practice taxidermy in the state. Leo A. Fatla, Mt. Pleasant; Donald H. Hafler, Sellersville; David S. Huyard, New Holland; William E. Vorisek, Linesville; and Wilbur H. Yearger, Jr., Allentown; successfully completed an examination conducted recently by the Game Commission in Harrisburg. Three other Pennsylvania residents took the exam but failed to qualify.

There are presently 123 licensed taxidermists in the Commonwealth.

NEW CLUB HOUSE proudly owned and built by the York Chapter of the Izaak Walton League of America. In the planning for 21 years and under construction for over a year, the new building was dedicated on June 17 at the site, seven miles south of York.





25TH REUNION OF THE SECOND GRADUATING CLASS from the Game Commission's Ross Leffler School of Conservation at Brockway. Of the 25 graduates, 18 were present for the affair held in State College on June 23. Only four of the 25 graduates have left the employment of the Game Commission in the 25-year period. Back row: Harold Russell, Gilbert Bowman, Raymond Holtzapple, Joseph Chick, Sam Weigle, Donald Miller, William Hodge, Levi Whippo, Howard Huffman, Bert Welch, Vern Van Order, and Clinton Ganster. Front row: Roland Turley, Harold Harter, John Shuler, Wilber Cramer, Robert Lichtenberger, Anthony Zacosky, Clyde Decker and Raymond Sickles. Mr. Cramer, now retired, was the School Superintendent for this class and Mr. Lichtenberger was a resident instructor.

TIPS FOR HUNTERS



Wrap those lunch sandwiches in aluminum foil. When the gang gathers they can be toasted over a campfire. This simple undertaking will produce a delicious lunch instead of burned crust. —*Reverend George L. Harting.*

Sayre Sportsmen Sponsor Wildlife Cuttings Project

In a pioneering effort, the Sayre Sportsmen Club has agreed to provide $500 annually for the cutting of woodland borders in Bradford County.

At a meeting on June 18 in Athens, the Sayre Sportsmen, headed by President Richard Marvin and club members, Dr. J. T. Littleton and Vernon Hicks agreed to cooperate with the Game Commission and the Soil Conservation Service in this project.

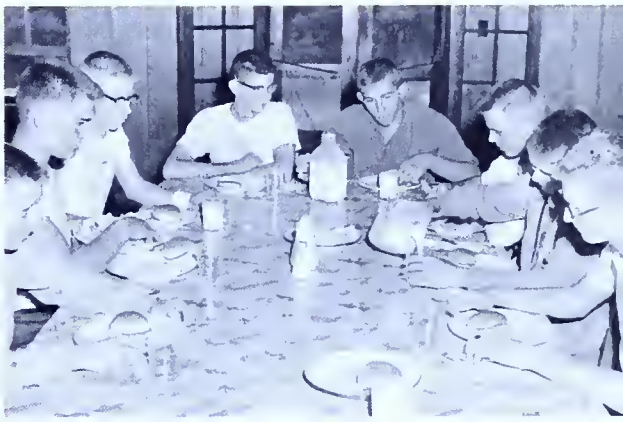
Game Commission personnel will help train selected local timber men who will do the cutting. The Soil Conservation Service will help in selecting suitable borders adjoining agricultural land with basically southern exposure and in wood lots containing trees under 12 inches in diameter breast high.

Rather than purchase game for stocking, the Sayre Sportsmen are undertaking the development of wildlife habitat in order to increase the carrying capacity for both grouse and rabbits in the area.

Spring Survey Indicates Slight Drop in Dove Breeding Population

The annual mourning dove "call-count" survey conducted by the Bureau of Sport Fisheries and Wildlife, U. S. Department of the Interior, between May 20 and June 20 indicates the breeding population of these popular game birds in eastern states was down about 3 per cent from last year. Survey results were announced during the recent Dove Conference in Washington, D. C., attended by M. J. Golden, Game Commission Executive Director, and Harvey A. Roberts, Chief of Research.

Hundreds of cooperators take part in this survey throughout the United States. Beginning one-half hour before sunrise and continuing for two hours, they stop at listening stations one mile apart along 20-mile routes, recording all doves heard calling or doves seen. The survey has been conducted since 1953 and helps the Federal agency determine hunting regulations on this migratory game bird.



UMM-GOOD! This is a typical meal at the Pennsylvania Junior Conservation Camp this summer held in Stone Valley in Huntingdon County. These boys hail from all parts of Pennsylvania and are sponsored by sportsmen's clubs and civic groups.

These regulations are established for three distinct management units across the nation—eastern, central and western. Based on this year's survey, the breeding index in those eastern states which permit hunting remained unchanged from 1961. In the eleven states which do not permit dove hunting, however, the index decreased 12 per cent.

COLLEGE STUDENTS SEE STATE GAME LANDS No. 226 in Columbia County. Twenty-one students from Bloomsburg State Teachers College learned about soil and wildlife on a recent tour of this State Game Lands in the northeastern part of the Commonwealth. Commission Land Manager William Fulmer and Conservation Information Assistant Steve Kish instructed the students. Dr. Bruce Adams of the school's geography department headed the class.

PGC Photo by Steve Kish





Photo by Mike Lynch

DEMONSTRATION OF A NEW PROJECTOR is given here by Mrs. Laura Peters of the Pennsylvania State University's Agricultural Extension Department at a July meeting of Game Commission Conservation Information Assistants and Supervisors held at State College. Left to right are: Sam Weigle, Steve Kish, Robert Lichtenberger, Bob Parlaman, Delbert Batcheler, Will Johns, Joe Chick, Ken Gardner, Mrs. Peters, Bob Wingard, and George Harrison.

West Chester Fish and Game Applaud 25 Years

The West Chester Fish and Game Association was 25 years old in June, having been organized the West Chester Anglers Club on June 24, 1937.

With 107 local men as charter members, the club elected its first president, Brinton Ross, on July 22, 1937, at the Municipal Hall in West Chester. Two months later the name was changed to the present form.

Of the 107 original members, only 12 still carry on their active participation.

A 25th Anniversary celebration was held on June 23 at the New Century Club in West Chester in honor of the event. Robert Brehm is the current president; Monroe Coldren, vice-president; J. Clyde McMullen, seeretary; and Fred C. Dutt is treasurer.

Duck Production Outlook on Northern Breeding Grounds Still Precarious

Reports from waterfowl survey teams of the Department of Interior's Fish and Wildlife Service indicate the breeding population is smaller than any year since the summer waterfowl surveys began in 1951.

For the past several years, severe drought has gripped North America's primary "duck factory," the prairie pothole region of North Dakota, South Dakota, and Minnesota as well as Canada's prairie provinces of Saskatchewan, Manitoba and Alberta. Aerial survey flights by trained personnel indicate a 37 per cent decrease in breeding population in these three provinces. Due to inclement weather and late ice breakup, only preliminary reports have been received from survey teams in Alaska, Northwest Territories, northern Saskatchewan, northern Manitoba, Ontario and Quebec.

HUNTER SAFETY EDUCATION



ST. MARYS' FIELD DAY. These hunter safety students participated in .22 rifle competition sponsored by the local sportsmen's club at St. Marys. Winners of the shoot were Sandra Taharra and Robert Schloder.

Hunter Safety Program—St. Marys, Pa.

St. Marys, Pa., is located in the mountains of Elk County, in the heart of the big game and wild turkey hunting range. In this town of nearly 7,500 people, there are very few homes that are without a firearm of one type or another since hunting is the number one recreation of its inhabitants.

During the past several years nearly four hundred boys and girls of this community have received instructions in Hunter Safety through Boy Scout Troops, Junior Conservation Groups, Outdoor Clubs, etc. These courses were given by Hunter Safety Instructors who had been trained by Game Commission personnel.

An outstanding example of the interest and cooperation shown by persons and organizations, was the class of students, members of the Outdoor Club, from St. Marys Central High School. This group of boys and girls received their training in Hunter Safety during the months of March and April, with sixty students completing the course. Eight instructors from the St. Marys area were in charge of this group. The training materials and arm patches were paid for by the Catholic Men's Fraternal Organization of St. Marys.

On May 13, 1962, this group of students was invited by the St. Marys Sportsmen's Club to participate in an NRA Hunter Safety Field Day at their club grounds in Flower Valley.

Useful NRA Publications

The material listed below may be obtained from the National Rifle Association, 1600 Rhode Island Avenue, N.W., Washington 6, D. C.

NRA Illustrated Handbooks

NRA Illustrated Handbooks contain selections of the best material on various subjects that has appeared in article form in *The Rifleman* in recent years.

Shooting Handbook	$4.50*
Reloading Handbook	$4.50*
Firearms Assembly Handbook	$3.50*
Gun Collectors Handbook	$2.50*
Shooters Guide	$3.00*
Questions and Answers Handbook	$2.50*
Hunters Handbook	$3.00*

* Price to NRA members, postpaid from NRA Headquarters is $1.00 less than listed.

Pa. Game Commission
Hunter Safety Certified

To Date:

Instructors—3,762

Students—43,596



ROLL THOSE BUSES, school is about to begin on Boas Street and everywhere throughout the country. As these buses roll through our September countryside, Mrs. Baker wonders how many of the students riding them actually see the wonders of nature around them.

September Brings a Change in The Season and City . . .

School Days in the Boas Street Woods

By Marian N. Baker

Photos by Elwood Grimes

THE yellow school buses are rolling along the highways and through the Boas Street Woods. Young pedestrians neatly groomed and carrying brand-new book satchels are converging on the local grade school. It is as if some invisible Pied Piper were piping to all the youth of the neighborhood.

After their departure the street has the appearance of a hastily evacuated village; bicycles, wagons and toys are scattered about in states of suspended animation. The preschool tots seem lost and a trifle lonely. Even a little black dog, for lack of better companions, comes out for a friendly word as I pass by.



I thought of all the buses rumbling over the countryside and the children walking along country lanes or waiting at crossroads where a vast panorama of the countryside spreads out before them. We, in the Boas Street Woods, do not have these wide vistas, but as I walked along I wondered how many of us see the natural wonders that we do have.

I wondered, after the safety patrol had lined up everyone in the square to await the green light, if anyone saw

the monarch butterfly high above the din of crowding trucks and impatient commuters, and noticed that for all its uncertain flight, the course it held was due south.

The monarch is keeping an appointment, too, an appointment with the retreating summer. Invisible and mysterious forces are drawing it to the southland where, like the migrating birds, it will spend the winter. All over the country at this season of the year the monarchs can be seen singly or in groups wending their unsteady courses southward.

Sometimes Called Milkweed

The monarch butterfly is sometimes called the milkweed butterfly because, in the larva form, it feeds entirely upon milkweed and it is upon this food supply that the eggs are laid by the adult butterfly. Perhaps you have seen these caterpillars banded with black and yellow strips on a pale green background and sporting a pair of black whip-like organs back of the head region and a smaller pair at the posterior end. Like all caterpillars they shed their skins to accommodate their increasing size. When they have reached their full growth they are about two inches long. With the last molt they change into the chrysalis stage which, in this case, is one of nature's most beautiful creations. Emerging from the caterpillar skin is, what appears to be, a pendant of green wax three-quarters of an inch in length, studded with shining gold and suspended from its larger end on a short black pedicle attached to a patch of white silk.

See-through Covering

After several days the chrysalis darkens and through the transparent covering can be seen the wing pattern of the developing butterfly. In about ten days the monarch emerges, its crumpled wings unfold and expand and it is a full-fledged adult.

The spread of the expanded wings is about four inches; the upper surface



HOW MANY SAW THE MONARCH as he flew past the safety patrol and the children lined up at the stop light? Although somewhat uncertain, the monarch's course is due south, he has an appointment with the retreating summer.

is orange. The veins and the edges of the wings are outlined in black with a black patch at the apex of each fore wing and a double row of white spots around the outer border of both pairs of wings.

The New Fur Coat

I wondered if anyone saw and admired the new fur coat of the gray squirrel as he sat upright, his paws clasped to his chest, to better see the passing crowd. True he is acquiring it on the installment plan and it looks a little patchy; at the moment, the tail is completed with its white tipped fur and the rusty vest is being replaced by a spotless white waistcoat. The mixed gray and yellowish brown coat which was quite adequate for summer wear will soon be replaced by the more modish winter gray with a tinge of brown on the back.

He is on the alert now and scolds and chatters at the slightest provocation, accenting each outburst with a flounce of his tail which sends ripples to its very tip—much like someone shaking a rug.

The gray squirrels are enjoying the abundance of pears which they harvest for themselves. The half eaten fruits are often left in an abandoned



bird nest or some other convenient place for future use.

The English Starling

And speaking of new fall fashions, did anyone see that the English starlings are all decked out in new outfits? They look so unlike their spring and summer costumes that at first you may not recognize the owners. Instead of their somber black vestments they are now sporting tweedy looking speckled attire. The top of the head has a brownish cast and the dark bordered eyes above gray cheek patches give them a masked appearance. Unfortunately the speckled suits do not wear well and long before spring arrives the brown edges of the dark feathers, which produce the mottled patterns, will have worn away and the starlings will be reduced to plain black suits for the remainder of the season.

Now the mottled bandits descend in flocks to eat the fallen fruits of pear and apple in the gardens and they are not above eating some particularly ripe varieties before they have fallen.

The starling that nests under our back porch seems loath to leave the familiar home site. Every morning he sits on a nearby telephone wire, his summer perch, and delivers a morning medley that is most amazing.

Starlings have the ability to mimic other birds; some individuals seem to be more gifted along this line than others. Our singer is a veritable virtuoso. With his head slightly elevated and his throat distended with the effort of the song, he produces a jumble of notes and phrases accompanied by the castanet-like clicking of his beak in true starling fashion. But among these characteristic notes is the distinct mewing of the catbird, the rasp of the grackle and the plaintive notes of the killdeer.

The Slug Trail

Or did anyone happen to look down at the pavement and see the glistening trails that intermingled there, especially in shaded damp places? The trail maker was apparently dissatisfied with the rough surface and laid a smooth track of his own on top. These are the trails of the garden slug. Slugs are really a kind of snail without a shell, except for a rudimentary one under the skin in some species. They are most active at night. Maybe you have found them hiding under a board or clinging to an apple that has been lying in the wet grass or even foraging among the leaves of a cabbage head.

Their moist gray bodies are nearly an inch long when fully grown. On the head are two retractable eyes on the ends of movable stalks. The flat foot, the edges of which secrete the slimy road-building material, occupies almost the entire under surface of the body.

Marvelous Adaptations

The slug may appear to be a repulsive, slimy creature, but its adaptations to its surroundings are marvelous. Watch how easily it can climb on a smooth surface; how it can withdraw its eyes when danger threatens; how the rasping motions of its rough tongue aid it in eating.

Now in September they, along with the little brown ants, the robins, the

starlings and the squirrels, are eating the fallen fruit. The little brown ants have eaten so much that their abdomens are stretched to such an extent that they appear much lighter in color. A lone flicker joins the group to probe for ants with its long beak and sticky tongue. The flicker is one of our larger woodpeckers and can always be identified by its strong beak, spotted breast, black moustaches and white rump patch.

Search for Nectar

Or did anyone see the bumblebees in their frenzied search for nectar before the season closes. The hibiscus flowers, so like their relatives the hollyhocks, offer an abundance of both pollen and nectar. The bumblebees are not the only ones that have found this source of supplies; working with them, but at a less feverish pace, are the honeybees. I was interested in observing their different rates of speed as they worked on the flowers of the bush honeysuckle near the bus stop. The bumblebee, with its longer tongue, visited four blossoms in the space of time the honeybee visited one. Most of the time of the honeybee was taken up in trying to force its body deep into the flower so that its tongue could reach the nectar supply. I have seen certain species of bumblebees, when confronted with a similar problem, pierce through the outside of the blossom to reach the nectar.

Gray Paper Balloon

Did anyone see the gray paper balloon swinging from a branch of the Norway maple at the corner? This was the home of the black hornet family, all summer long. It is made of paper which the hornets manufactured from wood fibers. Long before man ever got the idea of making paper, hornets were past masters of the art. The nest is well insulated against the summer heat. Even at this distance you can see the shell-like air spaces on the surface. This entire colony was started by one over-wintering queen, who, early this summer



Black Hornet Nest

selected the site, constructed five or six paper cells, laid an egg in each cell and covered the whole thing with an envelope of gray paper—leaving an opening at the bottom.

When the eggs hatched she cared for and fed the white grubs. When the grubs reached their full growth they spun silken covers over their cells and after a resting period emerged as adult hornets able to assist the queen in enlarging the nest and procuring food for additional young. And so the colony grew to its present proportions. Now in the latter days of September there are no lines of black and white workers darting in and out or clinging to the paper walls. With the coming of autumn the colony becomes disorganized; none but the young queens survive the winter.

In the early afternoon as the children returned from school, singly or in talkative groups, I wondered if they noticed that the sycamore trees are giving warning that autumn is here as the first crisp curled leaves glide to the pavement where they crackle under foot. Did anyone pick up one of these new fallen leaves and notice the

neat little cup at the end of the stem (petiole) that fit so snugly over next year's bud? Now wherever a sycamore leaf has fallen you can see the cone-shaped winter bud exposed on the twig.



Suggestion

Food Chains.

See how many food chains you can find in your particular Boas Street Woods. All summer long, the pear tree that stands at the corner of our house has been manufacturing its own food in its green leaf factories. Leaves look to be very thin, but in reality they are thick enough to be made up of several layers of differentiated cells —much on the order of a sandwich. The cells that contain the green coloring matter, chlorophyll, are the food making machines, the power for their operation comes from the sun, the raw materials are water from the soil and carbon dioxide from the air. From these ingredients, not only our pear tree, but all green plants are able to provide their own food and that of other living creatures. The process is called photosynthesis and man has never been able to unravel its mysteries or duplicate its principles.

In our story the fruit of the pear tree provides food for the little brown ants, the flicker places little brown ants high on its bill of fare and an ill-fated flicker sometimes falls prey to the prowling cat; thus a food chain is built up link by link.

The interesting thing about food chains is that all of them start with plants.

BOOK NOTES...

Bent's Birds of Prey

The Bent series of ornithological studies has become a collector's item among persons interested in wildlife, particularly birds. It is not unusual to pay up to $50 for one of the 20-volume series.

Dover Publications, Inc., New York City, have recently republished their first two volumes of Bent's "Birds of Prey," part one and part two.

These two volumes, in paperback form, are by far the fullest and richest work on American birds of prey ever to be collected. They cover in full detail 114 birds of prey, ranging from the ice-islands of the Arctic to the jungles of Central America: condors, vultures, kites, hawks, eagles, ospreys, falcons, caracaras (extinct), barn owls, and true owls.

Unabridged reprinting of 1937-38 edition, two volume set, total of 195 photographic plates, total of 907 pp., total cost $4.70 for both volumes. Dover Publications, Inc., 180 Varick Street, New York 14, N. Y.



ON THE TARGET LINE at the Pennsylvania State Archery Association Annual Target Championship Tournament at Penn State University in 1961 are these competitors from all over the state.

Variety Is the Spice of Archery...

Diversification

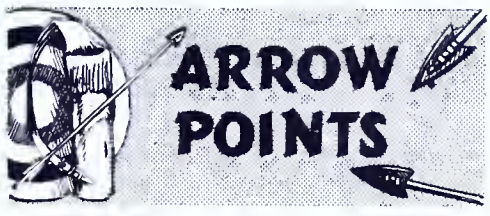
By Tom Forbes

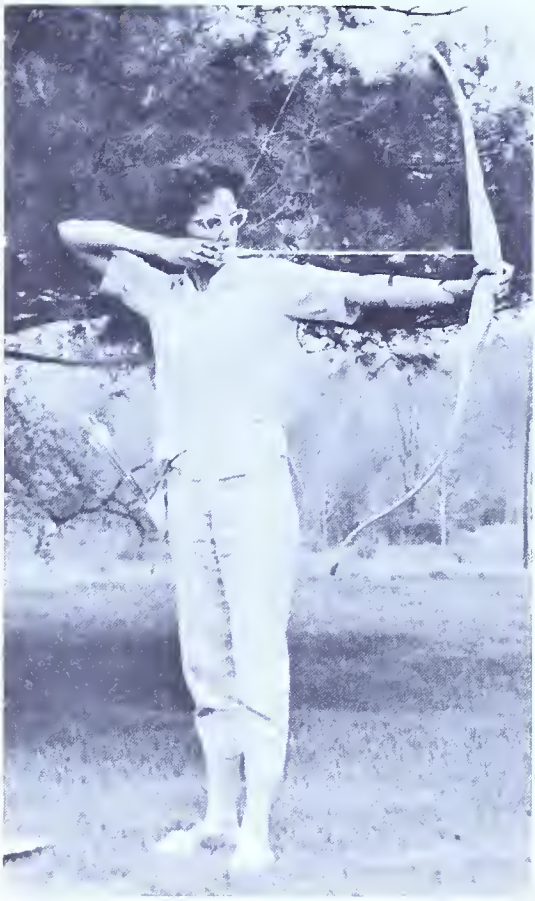
Photos by the Author

IN any field of human endeavor there is no substitute for the three P's; Practice, Persistence and Patience. With them a high degree of skill may be obtained if such is the aim of the individual. But constant repetition may produce monotony and thus destroy the fun of it, particularly in sports.

The popularity of archery in the field of recreation can be attributed to several factors. It is not a strenuous sport and does not require physical strength or undue exertion to enjoy and participate in its many phases. Age and sex are not a bar and the entire family can and does participate in the sport. Tackle and equipment may be purchased at moderate prices and any open expanse of land, including the back yard, will serve as an archery range. Many of us, employed indoors in sedentary occupations, require mild exercise in the outdoors to maintain our health. Archery fulfills this need and makes the needed exercise an enjoyable pastime.

An oft-quoted adage that "Variety is the spice of life" is not only true of archery games but is a necessary part of any club program. The successful club has learned that it must cater to all the members of the family and it programs its activities so that every member is an active participant. The time has passed when a club could build and maintain an active membership by staging open tournaments and offering prizes for the highest scores shot in one particular round. A club that persisted in these tactics found that its membership suffered a gradual decline until there remained only a remnant of the original membership. To maintain the interest and the support of the entire club mem-





INSTINCTIVE DIVISION CHAMP Pattie Bailey of Meadville won her title at the Pennsylvania State Archery Association 1961 Annual Field Championship Tournament at Penn State last year.

bership, competition among club members should be conducted on a handicap system. With continual revision, handicaps permit all members of the club to compete on a basis of equality. No amount of trophies can equal the satisfaction any archer gains in having his handicap reduced. Only a few favored individuals win most of the trophies but every archer can aim at a reduction in his handicap and be pleased with his rating.

Archery is not intended to be an endurance contest and a club should provide comfortable facilities and means of recreation for the entire family. Your club should be your home outdoors with picnic tables and fireplaces for meals, swings and sand boxes for the very small fry and comfortable seats in a shady spot where you can converse with friends or just plain sit and watch the clouds move across the sky.

Actually, the struggle to reach perfection can detract from the fun of archery. The pseudo scientific jargon some archery instructors use to explain the technique of shooting a bow would scare almost anyone from ever making the attempt. Relax! How you shoot is not nearly as important as how much you enjoy shooting.

Variety Is a Must

To enjoy the full measure of archery, variety must be introduced in the club program. Interest cannot be maintained at a high level by shooting the same round day after day. The older clubs found this out years ago and a number of variations in rounds were devised to add interest to the sport. Have you ever played a round of archery golf or shot the Pope-Young Round? Try flight shooting for distance and the wand shoot for pin-point accuracy. The wand consists of a wooden stick two inches in width, standing upright in the ground. It is six feet in height. Men shoot at this target at 100 yards and women and juniors at 60 yards. A round consists of thirty-six arrows. At the 77th Annual NAA Tournament the winner registered seven hits. Field archers frequently blank the 80-yard target. In the York Round the distances are 100, 80 and 60 yards, respectively. Seventy-two arrows are shot at 100 yards and 48 at 80 yards, concluding with 24 arrows at 60 yards. In National competition 72 hits have been registered on the target at 100 yards and at 60 yards the all-time record is 24 consecutive hits for a score of 208 out of a possible 216. This round is shot on a standard 48-inch target face.

Flight shooting is a specialized event in which both the bow and arrows are designed solely for this purpose. No mechanical drawing and releasing aids are permitted other-

wise there are no restrictions on shooting methods. The American record is 937.13 yards established in 1959 when the Annual Target Championship was held at Lancaster, Pa.

The Clout Shoot

Using the regular field round tackle the Clout Shoot should be a part of your program. This round permits group shooting which promotes social contacts with your fellow club members during the event. Thirty-six arrows constitute a round. Six arrows constitute an end. Men shoot at 180 yards, women and intermediate boys at 140 yards and women, junior boys, and intermediate girls at 120 yards.

The clout target is a replica of the standard target face magnified twelve times. It is laid out horizontally on the ground by means of white lines and the outer scoring circle is 48 feet in diameter. The center of the clout is indicated by a white marker not more than 36 inches or less than 30 inches square, mounted on soft wooden slats perpendicular to, and with the bottom against the ground. A solid color disc, not more than 9.6 inches in diameter, may be centered on this marker.

The rules and scoring are the same as used for target archery; the inner circle is 9 and in descending order 7, 5, 3, and the outer circle is 1. An exception is that rebounds are scored from the place at which the point of the arrow comes to final rest.

Arrows are scored after each end of six arrows has been shot. The field captain appoints a sufficient number of archers to pull and sort the arrows, normally one scorer for each scoring ring. Only these archers may enter the scoring ring until all arrows have been pulled, sorted and ready for scoring. To ensure accurate scoring a steel tape or wire accurately marked for the appropriate rings of the clout, may be rotated around a stake in the center of the clout to indicate the



A FAMILY GROUP of archers who all participate as members of the York Archery Club. Right to left are Edward Myers, his wife Gloria and their children, Linda, Michael, Thomas and Edward. This is a good example of how the sport of archery encourages a "close-knit family."



SCORING THE CLOUT END at the annual National Archery Association Championship Tournament. Central figure is John Hibbard of Harrisburg who is chairman of the NAA's Eligibility Committee.

value of all doubtful arrows, as determined by the point where the arrow emerges from the ground. Values of arrows that fail to stick in the ground shall be determined by the point of the arrow. When all the arrows have been pulled from the target, sorted and laid in the clout ring from which they were pulled, the scorers and archers enter the clout ring and each archer calls the values of his arrows beginning with golds. In this instance the gold is the inner ring of the clout and has a value of nine. It is well to use a double scoring system and the field captain should appoint a set of scorers for approximately every ten archers who compete in the shoot. To the beginner shooting his or her first clout you should know that the maximum range of your bow at your draw is when it is shot at an angle of 45 degrees from the horizontal. Since you cannot see the clout target from the shooting line, the white marker with or without an aiming point painted thereon serves to indicate the center of the clout ring.

A Temporary Sight

If you are accustomed to shooting with a sight you will find it necessary to tape a temporary sight on the lower limb of the bow. By trial and error and a little practice you will be able to determine the proper angle from the vertical from which you should release your arrow to ensure that it will land in the target area.

National Record

As an incentive and to compare your scores with what has been accomplished in the National competition; the record is held by Robert Rhode who scored 302 out of a possible 324 in the men's 180-yard clout in 1956. In 1958 Grace Frye set the present record in the 140-yard clout for women. She registered 36 hits for a score of 296. It certainly is evident that extreme accuracy is possible at these distances. These scores were shot by the nation's top performers.

In accounts of ancient battles we can read of a "cloud" of arrows. When the whistle blows on the shooting line and a group of archers release their arrows they make a beautiful sight as they streak across the sky in a graceful arc and fall into the target area. Try it.

The Bowman's Calendar

September 1-2-3: Pennsylvania State Archery Association, Penn State University, Annual Target Championship.

September 1-2-3: Col. Drake Archers, Titusville, Crawford County, three-day sport event. Includes deer shoot with 28 life-size targets.

September 8-9: Conococheague Archers, Green Castle, Pa. P.S.A.A. Field Championship Tournament.

September 21-22-23: Pennsylvania Bow Hunter's Festival, Forksville, Sullivan County. Includes wild boar hunt, running deer and natural flight targets.

These "Garbage Can Moochers"
Are Parasites on Our Parks . . .

Litterbug's First Cousin

By L. E. Stotz

A COROLLARY to the "litterbug," who menaces our roadsides by scattering his filth, is the parasite who preys on the taxpayer's pocketbook by hauling his household garbage to public campgrounds, and filling the garbage cans reserved for campers and picnickers.

It is hard to believe that anyone would have such colossal nerve as to expect the Forest Service to provide free disposal service for his household garbage, but the facts bear this out at many of the publicly developed campgrounds and picnic areas on the Allegheny National Forest.

One day at Sandstone Springs Picnic Area I not only found boxes of household garbage neatly boxed beside the overflowing garbage can, but someone had also brought along a heavy iron kitchen sink and a couple of boxes full of bits of wall board left over from the remodeling of a hunting camp.

Could it be that the use of these garbage cans is a step forward in the rehabilitation of a confirmed "litterbug?" Has his warped mind conceived the idea that he is doing us a favor by bringing his litter to the campgrounds rather than tossing it out the car door to contaminate the roadside? Is there hope that he will eventually graduate to the head of the class, and at long last haul his waste to a public dump?

Household garbage is not hard to identify. It differs from the standard pattern of leftovers from a bona fide picnic. It is more complex and may encompass the whole gamut of modern living. More than perishable garbage is involved. There is the old razor, the worn-out hair curlers, the children's broken toys, the "horror" magazines in which human frailty is depicted with stark realism. The worn-



PGC Photo by Harrison

"GARBAGE CAN MOOCHERS" are almost as bad as litterbugs. They carry their household and camp garbage to Park trash cans and expect the State or Federal Government to remove it for them. Everything from a kitchen sink to a bath tub has been found at these trash cans.

out floor mop, the electric toaster that won't work, the plastic dish pan with a hole in the bottom, the old wash tub—all are there.

Occasionally, in grateful appreciation of the services furnished, the donors of this junk will steal garbage cans from the recreation areas for home use. This places them in the same category as the person who asks his neighbor for a free ride in his car, and then if he gets hurt in an accident sues his friend.

The excuse that "it takes all kinds of people to make the world" is a banal one. What is needed to curb the "litterbug," the "night rider" who tosses his garbage out of the car window, and the "garbage can moocher" is public awareness that these people are parasites pure and simple. We need to clean up America but not at public expense. Every citizen must do his part. The ones who drag their feet need to be reminded that they are out of step with the times.



ESSENTIAL EQUIPMENT capable of satisfying most any all-year-round gunner, who hunts crows and small game. Note the old model 1897 Winchester riot gun transformed into a legal length barrel by the installation of an economical Weaver choke with the full choke or XFC choke tubes.

It's Nearly That Time Again . . .

Reflections of the Small Game Gunner

By Jim Varner

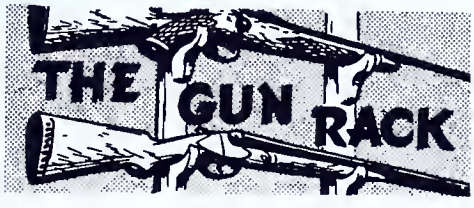
Photos by the Author

THE small game season will get under way soon with the gunner's thoughts turning to the smoothbore, or shotgun. It is estimated over twelve million smoothbore shooters live within the U. S. A., or about twice as many as there are rifle users. We estimate there are over 750,000 within our state alone. Their numbers are increasing rapidly despite the tremendous program on the development of rifle shooters.

This writer loves the rifle first and the shotgun second, but that does not cause me to attempt weaning shotgunners over to the rifle. Preference of the masses for the scatter-gun is due to the fact more small game hunting is available, despite smaller bag limits. Another reason lies in its limited danger zone with fine shot, while a third reason is the pleasure of hunting over dogs, which to many outdoorsmen is the most abiding sport of all in the hunting field. Perhaps, we should mention one other reason, and that is, rifle shooting is strictly a precision proposition. Wing and run shooting presents a gamble. About one out of every seven is really interested in precision. But most all men are gamblers. Being able to intercept the flight of a fast moving grouse or ringneck with a charge of shot presents a challenge to the masses that verges on winning the roulette wheel's jack pot. Summing up all facts, proves there is something about wing shooting that gives more pleasure to more men than any other phase of the shooting game.

What Gun to Buy?

The question now arises, what shotgun should one buy with which to begin his or her shooting career? What gun should the average experienced hunter consider if he is seeking a change over to a new firearm? Along with these questions comes inquiries from all concerning which is the best load for average hunting. To answer just these few questions anywhere near correctly would require a complete volume, instead of a limited article. However, we will briefly suggest some of our own views and experiences gained through some 57 years of experiences throughout all parts of the U. S. A. Actually, there





PRE-SEASON WING SHOOTING on crows pays off when that elusive "timber doodle" or jet-propelled dove strives to out-perform the gunner. The shooter is District Game Protector John Altmiller.

are no hard and fast rules to adhere to in this game except those requiring just good common "horse-sense" with a lot of safe gun handling good sportsmanship thrown in. Instead of telling you what is the best we will tell you what has been satisfactory down through the years with us.

Concerning the purchase of shotguns for the beginner, the dealer's shelves are well stacked with the largest variety ever of all gauges, all makes and all types of actions. The whole setup is about on a par with the average grocery store's array of detergents which are all claimed to be the "best." Shot shell varieties are about as complicated, with the final results causing the embryo hunter to be shooting BB's at woodcock and No. 9's at geese if someone doesn't help him out.

Single Barrel—Single Shot

The simplest form of a shotgun and probably the safest for young beginners is the single-barrel, single-shot arm. Winchester makes their Model 37 in a hammer model in all gauges from .410 to 12 gauge with standard length stocks, as well as a beginner's model in 20 gauge only with a shorter stock fitted with a recoil pad. The cost



A NEW BEGINNER is the boy that this article is aimed at. This fellow did well on his first outing as he proudly displays his first crow. The gun is a 20-gauge Model 12 Winchester in slide action. The 20-gauge is about the smallest gauge to purchase for practical use.

of the single-barrel is around $31 to $34. This is a splendid little arm, weighing from 5½ to 6 pounds. Savage makes a hammerless model called the 220. This one is made in five gauges—12, 16, 20, 28, and .410. Barrel lengths run from 26 in the .410 to 32 in the 12, with a "Long-Tom" 36-inch 12-gauge barrel available. Such a barrel length is a handicap. More on barrel length later.

Stevens, of course, is made by Savage and their single-shot duplicates the Savage 220 except it is a hammer gun. Marlin and Mossberg both manufacture beginners' guns mostly in .410 gauge. All single-shot arms are in the $30 to $35 price range. If you care to continue using one of these guns as you become more efficient most all of the variable chokes can be installed at prices ranging from $15 for the Weaver choke to twice that for the Hartford Cyclone or Cutts. This makes a more versatile gun out of your economical low-priced single-barrel. However, at this point, it is wiser to invest in something better.

The next action is the common double-barrel arm, which sums up to two single-barrel guns, with two different size borings which help in many ways. The less expensive doubles are made in side by side barrel arrangements. The more expensive ones are over and under barrel design. Doubles are expensive to make and currently we have few being made in the beginner's price range. At present Savage-Stevens are about the only makers producing a side by side double under $100. They are good serviceable arms and will kill small game for anyone willing to learn how to use them. Winchester discontinued making their Model 24 double several years ago. Ithaca always made excellent side by side doubles until labor costs became so prohibitive they turned their output to repeating arms. Marlin discontinued their excellent, popular priced over and under some time ago which leaves us with only foreign made doubles to select from in the $100 to $150 category if one has to own a double.

Over and Under

Probably, the most worthwhile medium-priced double made today is the excellent over and under produced by Browning. While this arm is made in Belgium most of us consider it essentially American. Here is a lot of shotgun for the man who sticks to the double gun. It is made in practically all barrel lengths, gauges, chokes and weights, whieh should suit the most fastidious buyer.

Winchester's Model 21, side by side double, is a custom built, premium-priced gun that starts at $1,000. While it is the strongest, best made firearm we know of, its price tag prevents free selling.

Buyers may find a few of the formerly popular well made doubles like Ithaca, L. C. Smith, A. H. Fox of Philadelphia, Lefever, Baker, Parker and others in good secondhand condition on the dealer's shelves. You can buy most any of these fine old arms with confidence from a reliable dealer. If

in doubt, get an experienced friend to go with you and evaluate such arms.

Bolt-action shotguns are made in most all gauges, barrel lengths and chokes by Marlin, Mossberg, and Savage-Stevens at very reasonable prices. Some have variable chokes attached. For the buyer who has to count his pennies but who desires a shotgun, these arms fill a definite void in the shooting game. They also work admirably as rifled slug guns on big game.

Slide-action repeating shotguns and auto-loading arms, while two distinctly different systems, belong in the same category. Today the auto-loading gun is a close second in popularity to the universally used "pump-gun" or slide-action repeater. They are made by Winchester, Remington, Marlin, High-Standard, Savage-Stevens, Ithaca and others in most any gauge, barrel length, weight, and boring. They work excellently with any and all types of adjustable choke devices. The cost of these shotguns is so competitive, and their versatility so excellent that they have long ago become the leaders in sales. There must be a reason! The slide-actions are made in .410 (3-inch) 20-gauge, 16, and 12 for standard length 2¾, and 3-inch 12-gauge magnum. The auto-loaders handle the same except none are bored for the .410. You may not agree with me, but I see little use for the .410. The 28-gauge was not a great deal more efficient until the one-ounce load came out. It is a fact that the lightest 20-gauge load will do a better job than the heaviest .410 load. It has a bigger, easier sighting plane, very little more recoil and can handle up to 1¼ ounces of shot in the magnum load. Don't kid yourself, try the two gauges for pattern on the 40-yard target with the same class load—¾ oz. in the .410 and ⅞ or 1 oz. in the 20 with 7½, 8's or 6's. This test, if both barrels are bored the same, will show the difference.

ONE OF THE BEST small boy gunners we have ever seen is 12-year-old David George, Jr. He handles the heavy trap grade Model 12 Winchester as if it were a toy. His scores run in the expert category with straight 25's not uncommon.



Most Hold Three

Most of the new auto-loaders are designed to hold only three shells. There are a few which handle 5 and 6 shells. Over three is illegal on small game most everywhere. The gun can be used with more on pests, crows and all target shooting. Most all slide-actions hold five or six shells. At this period of the year it is best to plug your gun to use only three shells and leave it that way the rest of the season, unless you plan a weekend crow safari, then you need lots of fire power if you know the game.

As to shells for the standard 12, 16 and 20 gauge guns, we suggest you try the standard skeet and trap loads in No. 7½ or 8 shot, especially, for early drams and ⅞ to one oz. of shot in the 20. The 16 can run 2¾ drams 1 ounce and the 12, 3 drams 1⅛ oz. Pattern your gun carefully, know where the exact center of your pattern is at 30 to 40 yards. Do not leave anything to chance—in fact, sight in your shotgun as you would a rifle. As the season progresses try the medium loads if you think you need them, but stay away from mag-

num loads until you are an experienced shooter. They gain little and cause the majority to develop a good case of jittery flinching. Any load that performs efficiently at the traps makes an excellent one in the field. Please do not overlook this fact. Enjoy your hunt, shoot comfortably and confidently and return home anxious to go again.

As to recoil, all guns kick according to the cubic displacement of the charge it contains, weight of the arm, and design of stock as well as length of barrel. A rough rule is that in order to avoid unpleasant recoil a shotgun should weigh at least 100 times the weight of the shot charge. In other words if you are shooting a one-ounce load in your 20-gauge the gun should weigh 6¼ pounds to be pleasantly comfortable. This is why I advise you to avoid the 1½-ounce magnum 12-gauge load in a 6½- to 7-pound gun. Such a shell should be used in a 9½-pound arm. Even in the 9½-pound gun you know you have released a lot of energy.

Does barrel length make much difference in range? The difference in velocity owing to shortened barrels is not important from the hunter's point of view. You lose about 7 foot seconds per inch according to Winchester's research. In other words, the difference between a long 32-inch barrel and one cut to 24 inches would be only 56 feet per second loss in velocity. This amounts to nothing in effect on game. Long sighting radius is about all one gains in a long barrel. There is a lot more to tell you about the scatter-gun, so we will go into a huddle later.

Letters . . .

A "Goof"

On page 24, July issue of the GAME NEWS, you describe a virgin hemlock with a 15′ diameter. Is this figure in error, or do we have hemlock that large?

I was raised around the C.P.L. logging areas and have never run into hemlock that big. There are 8- to 10-foot pine stumps in the Bear Creek area, but in all my travels, I haven't run across any 15-footers.

Incidentally, I remember Phil Sharpe, when he worked on the Foreign Materiel Museum at A.P.G. I was in Bomb Disposal at the time.

I have been reading the GAME NEWS for about 13 years and consider it the best outdoor magazine in the country.

Ronald L. Felton
Sheffield, Pa.

(Editor's Note: The photo caption on page 24 of the July, 1962, issue of GAME NEWS had a "goof" in it. The hemlock is 15′ in circumference, not diameter.)

License Well Worth the Cost

The GAME NEWS has been coming to my home now, for about five years, and I enjoy reading this magazine. This is a very enlightening magazine, and if everyone who purchased a hunting license also purchased the GAME NEWS, there possibly would be less antagonism for the Game Wardens and the Commission itself.

With regard to the increase in hunting licenses, I personally feel that the license should be increased. It is not difficult to see that the cost of almost everything has risen over the past ten years. If the cost would have to be raised to $5 or $7.50 I would gladly pay this, for I feel the pleasure and recreation that I receive is well worth the cost. I have four boys coming up in the future who will probably wish to hunt, and I sincerely hope that they will have some opportunity to do so. If the license increase will help assure the opportunity, then raise it.

Lawrence J. Finnegan
Harrisville, Pa.

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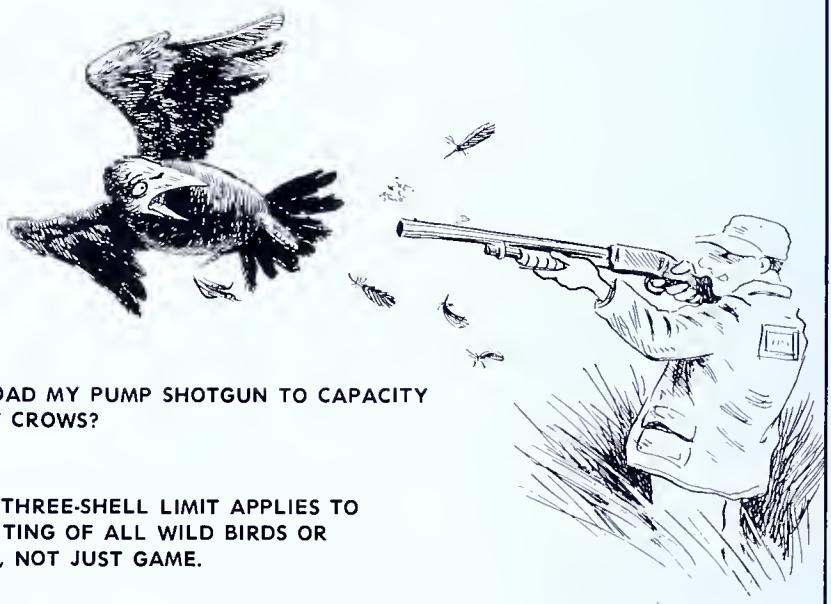
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IT'S THE LAW

NOT ALL GAME LAW VIOLATIONS ARE INTENTIONAL. AS A SERVICE TO COMMONWEALTH SPORTSMEN, GAME NEWS, IN COOPERATION WITH THE DIVISION OF LAW ENFORCEMENT, TAKES THIS MEANS TO BRIEFLY CLARIFY SOME OF THE MOST FREQUENTLY MISUNDERSTOOD OR LEAST KNOWN GAME LAWS.

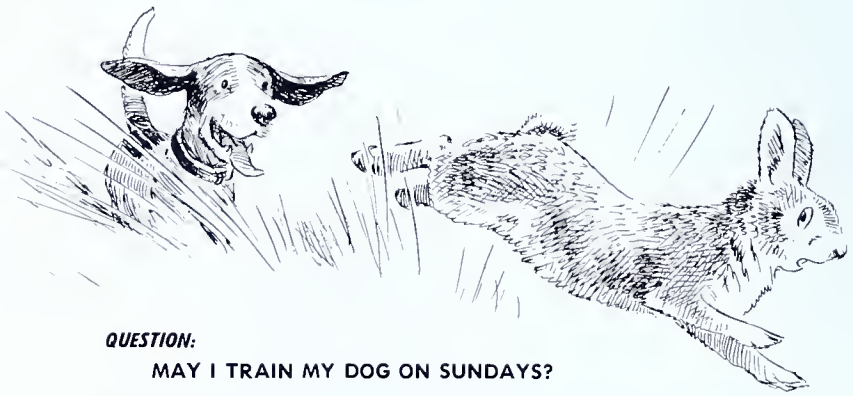


QUESTION:

MAY I LOAD MY PUMP SHOTGUN TO CAPACITY TO HUNT CROWS?

ANSWER:

NO. THE THREE-SHELL LIMIT APPLIES TO THE HUNTING OF ALL WILD BIRDS OR ANIMALS, NOT JUST GAME.



QUESTION:

MAY I TRAIN MY DOG ON SUNDAYS?

ANSWER:

DOGS MAY BE TRAINED ON SUNDAY ONLY WITH THE CONSENT OF THE LANDOWNER.

1.6 C.2

Pennsylvania GAME NEWS

OCTOBER, 1962

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Vic Stephens

COVER: Many a waterfowler's thoughts will turn to northwestern Pennsylvania and Lake Erie with the nearing of the goose season on October 10 and the duck season on October 20. This month's cover pictures Presque Isle Bay on Lake Erie near the City of Erie. This is a favorite duck hunting area where migratory waterfowl stop to feed and rest in the shallow waters before continuing their southward flight.

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EDITORIAL . . .

It's Part of the Game

WHEN a football game begins, the kicker waits for the whistle before kicking off. If he kicks too soon, his team is penalized. It's all part of the game and the participants follow the rules.

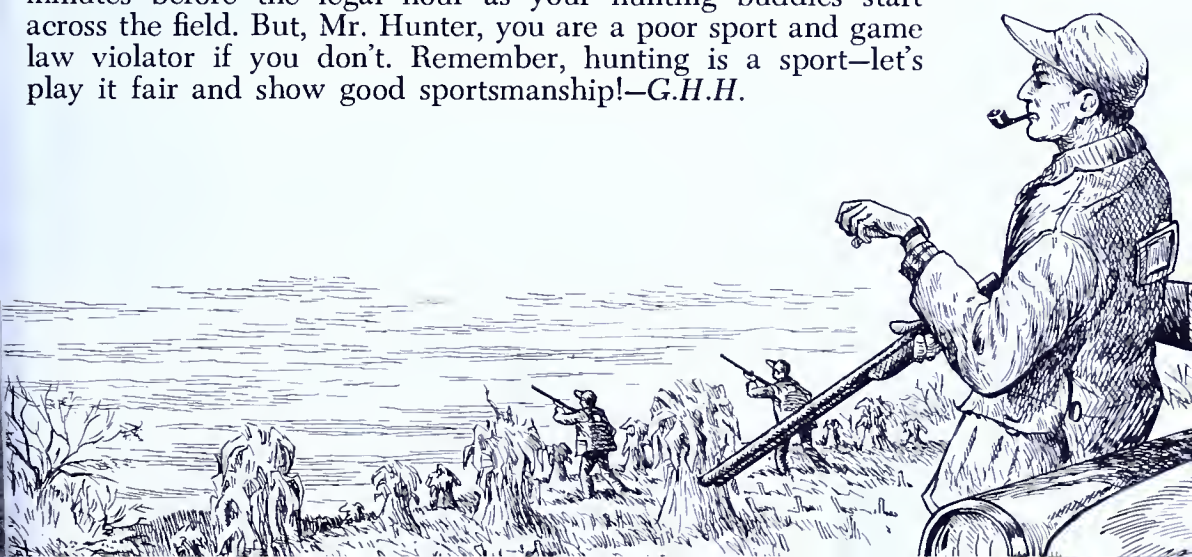
At 8 a.m. (EST) on October 27, the 1962 Small Game Season will begin, but as usual, there will be those hunters who "just can't wait" for the legal starting hour. It will not be unusual on that morning to hear shotgun fire as much as 15 or 20 minutes before 8 a.m. As the clock moves closer to the legal hour, the firing will probably increase and by zero hour, shooting may be in high gear.

Why do ordinarily law abiding citizens "jump the gun"? Why do these hunters risk a $15 fine and the embarrassment connected with it merely for a matter of five or ten minutes? It seems to us that hunting, like football, is a game with rules and penalties. The man who plays the hunting game should want to play it fairly. He owes it to the wildlife, to his fellow sportsmen and most importantly to himself.

Some hunters blame their premature shooting on the confusion of Daylight Saving Time. The game law reads that the season will open at 8 a.m. Eastern Standard Time. This, of course, is 9 a.m., Eastern Daylight Saving Time. Be sure that you know whether or not your watch is set on daylight saving time; most Pennsylvania watches are on fast time in late October.

Legal shooting begins one hour later than normal on the opening day and there are some good reasons for that. The farmer on whose land we hunt is entitled to a little time to get his chores done before the shooting starts. He has a right to be out there with us when the legal hour arrives and the extra hour helps him do this. In addition, if there is fog or rain, as so often is the case in late October, the later hour may bring better hunting conditions and lessen the chance for an accident.

You may find that it takes guts to stand your ground at five minutes before the legal hour as your hunting buddies start across the field. But, Mr. Hunter, you are a poor sport and game law violator if you don't. Remember, hunting is a sport—let's play it fair and show good sportsmanship!—*G.H.H.*





WALKIN' SHOES

By NED SMITH

Ring-Tailed Rascal of the Lowlands

1. The raccoon is found only in North and Central America. True or false?
2. Do raccoons hibernate during the winter?
3. Are they predaceous?
4. What are plantigrade mammals?
5. Are raccoons difficult to trap?
6. Young coons are born in underground burrows. True or false?
7. Is it true that raccoons wash all their food before eating it?
8. What sort of damage do coons do on farms?

THE raccoon is one of the most confusing mixtures in the animal kingdom. To the kids he's a cartoon character with a funny masked-bandit face. To the farmer he's an unfunny corn-eater and chicken-snatcher. To the hunter he's the best excuse a man ever had for missing the late, late show. To the trapper he's money in the bank. And to the unbiased nature student he's a tremendously interesting combination of all these things and a whole lot more.

As American as the Bronx cheer, Br'er Coon is found in all the states but Alaska and Hawaii, as well as throughout Mexico and Central America. In Pennsylvania he is very abundant, having increased steadily with the decline in fur prices.

Br'er Coon's outstanding feature is, of course, his fiendishly cute face. His broad cheeks, long, slender muzzle, shoe-button nose, and perky ears are not too unusual. But that mask! If nature draped it over his beady eyes to warn folks of his untrustworthy character she underestimated the coon's appeal. Does he look like a masked desperado? Not on your life. He looks like a little boy *trying* to look bad.

His bushy, ringed tail is as amusing as his choir boy countenance. Between the two is a hunchbacked, long-legged body cloaked in long, grizzled brown, black, and gray hair tinged with yellowish or buff. His feet are nearly white, with naked soles that are placed flat on the ground in walking. The toes are long and sharp-clawed. The forefeet are remarkably sensitive and dexterous, capable of performing the hundred and one tasks necessary to make a coon's life adventuresome.

Raccoons attain husky proportions. Large males have reached a weight of thirty or more pounds—although the average would be closer to half that figure—and a tip-to-tip length of more than three feet. Add to these impressive dimensions surprising strength, indomitable courage, a capacity for traveling, and a nose that works overtime, and you have an animal endowed with a tremendous potential for good or evil.



Fortunately, the masked one is usually content with relatively unimportant foods—mice, crayfish, frogs, wild grapes, and the like—that the woods and streams provide. But when he develops a craving for young corn or roosting hens he quickly becomes a threat to rural economy. In game management circles, too, Ringtail's food habits are viewed with mixed emotions. Sportsmen know that while he's too slow to be a topflight predator he bungles into (and eats) plenty of incubating waterfowl, turkeys, quail, and other nesting birds and their eggs. As a matter of fact, his habit of snooping in tree cavities made it imperative to develop the metal, vermin-proof nesting boxes that are now used for wood ducks.

In all fairness, it must be admitted that the raccoon does not restrict his diet to items the farmers and hunters consider their special property. In the vegetable line he also dines on wild cherries, wild grapes, persimmons, mulberries, raspberries, blackberries, apples, acorns, beechnuts, and various grasses and sedges. Animal matter includes earthworms, grasshoppers, crickets, beetles, yellowjacket and wasp grubs, fish, mussels, crayfish, turtle eggs, frogs, wild birds and eggs, mice, and assorted carrion. Garbage is also high on the list—which is the main reason for coons taking up residence in city shade trees and picnic areas in the mountains. Raccoons are frequently caught in traps intended for foxes and baited with the odoriferous decomposed flesh of ground hog or domestic cat, a dietary indiscretion that deters many a fox trapper from dining on the raccoon himself. It must be said, however, that such a diet is not typical, and young coons, at least, are mighty good eating.



Food Washing Misinterpreted

The raccoon's habit of washing its food before eating is well known, but usually misinterpreted. It is usually the flesh of animals that is "washed" and the process seems to be less a matter of cleanliness than a liking for soggy water-logged food. Captive raccoons have exhibited a great deal of individualism in this matter – some dousing nearly everything, others eating much of their food as they find it—and there's little doubt that wild animals enjoy the same diversity.

Raccoons do practically all of their hunting after dark, and even where plentiful they are seldom seen. Daylight hours are spent in the den tree—usually an old hardwood tree containing a hollow limb or other large cavity, although underground burrows or cliffside crannies are sometimes utilized. On warm sunny days they like to soak up sunshine lying astraddle a horizontal limb or curled up in a comfortable crotch in the den tree, and I've even seen them fast asleep in abandoned crow nests.

As a rule adult coons live alone, except females with young. The latter, usually three to five in number, are born in the springtime after a gesta-

tion period of about two months. Although blind at birth, they are well furred and have baby-size banded tails.

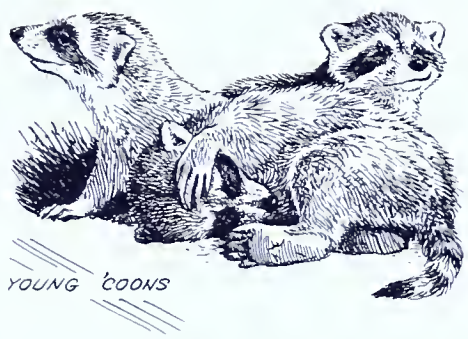
Several weeks after birth their eyes open, and at the age of about two months the mother begins to take them on short food-hunting forays. They climb well by this time, and at the first hint of danger take to the nearest tree. Their apprenticeship is a four- or five-month course in frog catching, grape picking, crayfish grabbing, and corn husking. Every pond shore and stream bank in the neighborhood becomes embossed with their tracks, and little in the way of food escapes their inquisitive noses. When autumn finally arrives they are fat, sassy, and well able to take care of themselves, although the family usually remains together until spring.

Wintertime is not spent in hibernation, but they do nap through spells of rough winter weather in the snug interior of a favorite den tree. Let the weather moderate a bit and, snow or no snow, they'll be out making tracks.

Raccoons are far from silent creatures. They snort, cluck, and churr. When angry they can hiss like a possum or growl as threateningly as a bull terrier. On moonlight autumn nights they sometimes call out with a shrill, quavering whistle.

Man is Ringtail's chief enemy. No one will get rich trapping them, but a number of Pennsylvania trappers include coon sets in their trap line nevertheless. They are not hard to catch, for their natural curiosity and insatiable appetites lead them to any properly baited dirt hole, cubby, or water set. Many a coon has been caught by the simple expedient of wrapping the trap pan with shiny foil and setting it under water. As might be expected, no ringtail with the normal complement of curiosity could resist fingering such an eye-catching object.

Hunting coons with a couple of deep-voiced hounds is a really unique sport. Its devotees slip their hounds in coon country as soon after dark as



the quarry has had time to leave the den tree and lay a trail. Once a hot scent is struck the hounds lose no time telling about it, and the fun begins in earnest. Whether you revel in charging through the woods by the light of a flashlight or carbide, hot on the heels of the dogs themselves, or listening in rapt attention to the musical progress of the chase, it's a thriller from start to finish.

Br'er Coon can run a tricky course but if the dogs don't lose the trail he'll generally be found peering down from the safety of a forest tree. You now have a choice—leave him to run another night or shoot him down. It's not always an easy choice to make. The dogs, of course, consider it your duty to bring him crashing down, and he *is* a destructive rascal. But more night hunters than you'd believe have lost their taste for putting a bullet between his innocent (?) eyes. As I said before, it's easy to underestimate Br'er Coon's appeal.

ANSWERS TO THE QUESTIONS

1. True.
2. No, although they do remain "indoors" during inclement weather.
3. Yes.
4. Mammals that walk flatfooted on the soles of their feet.
5. No.
6. Rarely. More often they are born in a natural cavity in a tree.
7. No, although if water is handy they usually wash animal flesh before eating it.
8. Coon damage on farms is usually confined to corn, poultry, and eggs.

It's Not the Caller but the
Man Behind It That Brings in the Turkey . . .

Takes Talent to Talk Turkey

By Maurice E. Sherman

FEW hunting experiences excel the thrill found in stalking and calling the wild turkey. Exciting tales told by old bewhiskered backwoodsmen regarding how a wise old wild turkey gobbler had outwitted them time after time fascinated at least one youth in the early part of this century. He became an ardent hunter of this stately game bird, and later engaged in wildlife conservation work to help restore their rapidly depleting numbers.

These sagacious game birds have in recent years become surprisingly more numerous in the northeastern middle Atlantic States. They provide a rare hunting adventure second to none. And what a reward for the day's hunt!

Many are shot while hunters pursue other species of game. Those taken in this manner require no skill. The many hunters afield in the early season days often rout them to the four winds.

The art of skillfully stalking and calling the wild turkey is not easy to acquire. Many attempting to accomplish the art fail because they lack patience and have not mastered a good turkey caller. I shall endeavor to portray something about this art in the following paragraphs.

Marksmanship Comes Easy

Skill in marksmanship, with either shotgun or rifle, to shoot a wild turkey may soon be acquired, but not so in learning to use the caller successfully. Many turkey hunters use small rifles, for example the .22 Hornet, equipped with a four-power scope. Rifles are best for longer shots. Experience verifies that the rifle leaves fewer cripples.

Many Kinds of Callers

Success in calling is just as important as marksmanship. There continue to be many contrivances that are used as callers. Individuals and manufacturers make some good ones and some not so good. However, the quality of the caller will not lure the turkey to the gun if the hunter fails to become skillful with his chosen caller. Much depends on the patience of the novice to stick with the practice and to learn all he can about the conduct of wild turkeys.

One should visit the hunting grounds he elects to hunt early in the fall. Take a caller with you but refrain from taking firearms, because Pennsylvania laws prohibit it. Scatter a flock of turkeys, and then attempt to call them from a hidden location. If you have become fairly proficient with your caller, you may be rewarded with the sight of a turkey coming soon; especially if your scatter job has separated an old hen and her young ones. The environment for the old hen has been serene since the past fall, and the young ones have not yet run this gantlet.

Should you have been successful to a degree as outlined in the foregoing paragraph, you have had an experience with woods lore and wild turkeys that has only begun. You are still a novice in the art of turkey call-

---

Maurice E. Sherman is a former supervisor of the Game Commission's Northcentral Division from 1922 to 1955 when he retired with 36 years of service. At age 71, Mr. Sherman resides in McConnellsburg.



ing. If you have the time and opportunity, become acquainted with a local hunter who has some knowledge of the wild turkey. He may have acquired some skills which will help you.

Practice Your Calling

Now, the idea is to become a good turkey caller, first and foremost, before your adventure meets with discouragement and disappointment. Choose the caller that you believe you can most successfully develop to sound like the call of the wild turkey. This writer has tried every caller he has ever known, from the small wing bone of the turkey to the diaphragm roof-of-mouth type, even slate contraptions and box callers of all shapes. Alas, a homemade box caller, tinkered with and tuned by hand, designed and made by the writer, has been successfully used for a number of years. This caller peeps, yelps and gobbles. It will also imitate the *PUT*, which is the danger signal given by the wild turkey. This signal should never be used unless the hunter desires to frighten the turkeys.

Experience Is the Best Teacher

It is often said that there is no substitute for experience. Therefore, those who have tried and failed usually accept the wisdom of those who have learned how to win.

Come along now as I take you on a true wild turkey hunt. It came about upon the casual meeting of two old experienced wild turkey hunters one fall day some years ago.

Miles and Marse met one beautiful and crispy fall day in the month of November in a northcentral Pennsylvania region. All the countryside along the Susquehanna River was aglow in a panorama of fall's varied colors. Miles said to Marse: "What do you say, let's go for wild turkeys."

Marse agreed and soon they were off—both equipped with good turkey callers. One carried a .22 Hornet rifle, equipped with a four-power scope, and the other carried a pump-action shotgun.

They soon reached an extensive woodland area inhabited by wild turkeys. The turkeys had been shot at and generally put on the run by many hunters during the first several days of the hunting season. A number had been shot by random scatter hunters, while others were bagged by skilled stalk and call hunters, lurking in selected undisturbed locations. On this particular day there were few hunters seen or heard. A quiet, undisturbed forest is first choice of a skilled turkey hunter.

They Split Up

Miles chose to scout the foot of the mountain and Marse took the upper benches. The technique was understood by each. They were aware of three or more flocks of turkeys that were seen as they roamed the region. These birds were feeding on the abundant wild grapes, dogwood berries and acorns. So accordingly, they maneuvered to take advantage of an assembled or scattered flock. The turkeys would be hungry and would likely be in the feeding areas, for they had been harassed incessantly during the previous several days during most of the daylight hours.

Up in the dogwood feeding region Marse slowly stalked his way, facing a light breeze steadily blowing. Soon he detected a faint turkey call. As he progressed on course the call was heard several times. Suddenly, he halted sharply, for the low contented chatter of a peacefully feeding flock of turkeys was immediately ahead. No move must be made for the time being. He must now avoid detection, for their keen eyes and alert dispositions may put them to flight or a silent sneak away. Ahead of the feeding turkeys a sharp clear call of a turkey interrupted the peaceful scene. Again and again this call of a lost turkey was heard. The feeding flock became silent.

Marse's long years of experience steadied his action. He soon detected



A SHOT RANG OUT and simultaneously a flock of more than a dozen turkeys erupted from the mountainside. Two flew over the region in which Miles was likely to be, but no shot was fired.

the well-timed and spaced call of the lost turkey emanated from a human source, indicated experience at turkey hunting.

A shot rang out. Simultaneously a flock of more than a dozen turkeys erupted from the mountainside. Two flew over the region in which Miles was likely to be, but no shot was fired. The flight of turkeys dropped about 400 yards down the slope.

Marse slowly and carefully stalked his way down into close proximity of the location where the turkeys had sought shelter. Profuse second growth containing old treetops and briars prevailed. The turkeys would not run far in this heavy cover. They would sneak into the old treetops, briars and other debris, which would blend with their coloration almost perfectly. Wild turkeys harassed by hunters soon become adept and clever at hiding their bodies in vegetation or other kinds of debris suitable to their coloring. Often they will lay low for considerable time, refusing to answer a call and may eventually sneak away.

An old treetop on the ground was soon located by Marse. Here he carefully positioned himself for a good view and ease of movement for a shot. A period of thirty minutes or more was maintained without movement or sound. All the while roving eyes and keen ears were alert to movement or sound.

Finally, the box caller was picked off the ground near his feet. It was placed there for convenient reach and to avoid any movement that might be detected by a watchful turkey's keen eyes. At this moment Marse recalled the caution admonished to him by the old bewhiskered turkey hunter who had taken him on his first wild turkey hunt in that long ago year of 1904. This old veteran of the Civil War, who could not remember how many wild turkeys he had called and shot, cautioned as follows: ("Always remember that the wild turkey's eye is ten times more keen than the human eye. Lay low me lad until I call one in for you.") He did so with the small wing bone of the turkey.

Then He Called

Marse held his box caller in his left hand and lightly held the free end of the paddle between his thumb and first two fingers of the right hand. His position in the treetop allowed all this movement freely below line of sight and behind cover, not likely to be penetrated by the sharp eye of a turkey. Three or four light scrapes inward over the curved top of the right side board of the caller produces the call of a turkey hen or a young turkey if the box is held slightly more firm. This call was repeated three or four times without getting any response. Then the left side, next to the body of a right-handed person, was given a similar number of scrapes, inward to the box. The left side produced a deeper and slightly raucous call that imitated the gobbler call, followed immediately by an imitation of a gobble made by wiggling the paddle across the top of both sides of the box.

Up the mountain came a haughty reply from an adult gobbler. He kept it up three or four times, which en-

couraged three answers from below and two above from his harem hens or young ones. Since gobblers tolerate no other master gobblers in the harem, he slowly and cautiously approached. No movement dared be made nor was another call made, for the roving head and eyes of that gobbler were now scarching for a "usurper" gobbler. When he was within about forty yards, yet not seen, he veered off to his left slightly. His footsteps were distinct as he passed by. Whatever prompted this diversion was no doubt to his advantage. He took up station about sixty yards away and talked his flock into the same.

Close but Hidden

Despite the fact that a number of the turkeys passed by within about forty yards, none were seen. The forest growth was so heavy that it forbid the sight of one. Marse knew that all the turkeys would seek the gobbler and dared not to make another call. Another gobble may have brought an enraged running or flying gobbler upon him, which would have been to his liking had he a shotgun. Being armed with a scoped rifle did not permit this risk. It is likely also that one of the several converging turkeys would have detected danger, which would have created a wild confusion as they came to this center. It is well to point out here the hunter's advantage as of the sudden and unexpected turn of events that enticed a harem from the spot that indicated the location of a "usurper" gobbler. Patience and experience had up to the moment paid dividends.

UP ON THE MOUNTAIN came a haughty reply from the gobbler. He kept it up three or four times, which encouraged three answers from below and two above from his harem hens or young ones.



By this time Marse was convinced that neither the gobbler nor any of his flock had seen him, for the gobbler took station off to the right and a bit to the front of his hiding place. The turkey talk showed that satisfaction and contentment were now being expressed among them. They hadn't the slightest idea that great danger was near them, should one of them expose its body.

Nighttime was within sixty minutes. No further feeding would be done that day. It is likely that a roost for the night may have been chosen nearby.

Wild turkeys never forget to check for danger around them, even though they have assembled and seem to be happy about it. Marse anticipated their next move. He was armed with a rifle, but had he been armed with a shotgun, his conduct may have been altered a bit.

The Big Moment

The opportunity came soon. A large hen turkey flew onto a limb about twenty feet above the ground, to survey the surroundings. That fleeting moment came quickly and was acted upon as the chance commanded. Marse's rifle leaped to his shoulder; the cross hairs of the scope split the upper middle back of the turkey, and a trigger squeeze sent the turkey's body hurtling through a cloud of feathers to the earth with a thud. He arose from the log upon which he sat and walked to the scene of his trophy about sixty yards away. "Ah," he said, "a noble and crafty game bird, but I outwitted your lord and master. What a prize! Now I shall see about my companion's luck."

Picking up his prize, he toted it to his parked car about one hundred rods away. A search was made for his buddy, Miles, who was soon located. As usual, a big broad smile announced his greetings, for he said: "I heard it all and stayed put for my chance, too."

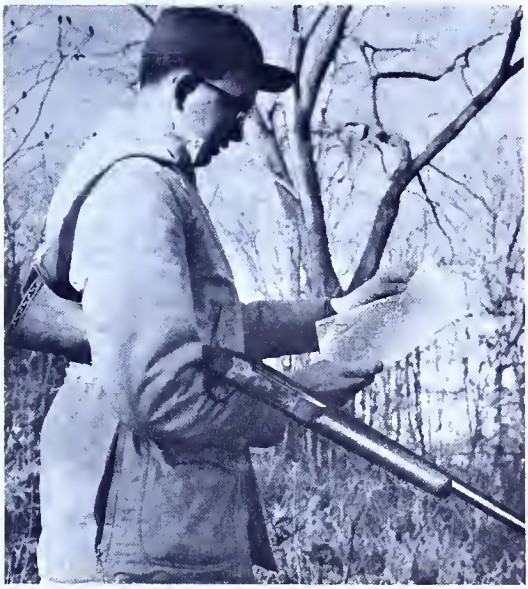
One of the turkeys escaping from their roundup beneath the maple tree in the last phase of their afternoon's adventure with Marse had fallen victim to Miles' shotgun within seconds after the shot fired by Marse.

Thus ended a beautiful fall day of thrills of hunting the wild turkey. The adventure and technique may be worthy of mention for the unskilled and embryo hunter who may choose to match his wits with a crafty old wild gobbler. The sagacity of this noble wild game bird has appealed to and met with high regard by many of the best and most skilled among the hunting fraternity.

HUNTING WITH AERIAL PHOTOS

By Larry Pringle

Photos by the Author



A HUNTER CHECKS an aerial photo for likely game cover as he enters a new area. Be sure to check the exposure date on aerial photos because cover will change over a period of years.



USING A STEREOSCOPE with two adjacent photos reveals a 3-D effect giving height of the habitat. The stereoscope looks at the same area at two different angles found on the overlap of two adjacent aerial photos.

SPORTSMEN are taking advantage of aerial photographs to locate game and organize hunts.

Showing actual vegetation, the photos reveal rabbit and grouse cover, or likely stands for a deer drive. Viewed with a pocket stereoscope, two adjacent photos produce a 3-D image, showing height of habitat and hills. Once familiar with their use, sportsmen can explore strange country in advance, by photo, then hunt with ease.

Most of the United States has been photographed. The Department of Agriculture and Soil Conservation Service are likely sources of photos at reasonable cost. When ordering, consider the date of exposure. Plant succession may have changed the vegetation greatly if the photos are several years old.

Order a convenient size for use in the field, easily slipped in a game pocket. A plastic cover will provide protection and allow marking of potential or favorite hunting spots.



Photo by Leonard Lee Rue, III

THE GREATEST PHEASANT POPULATIONS are found in the best agricultural areas of the state. Small grain and hay fields interspersed with some type of permanent cover such as fence rows and farm wood lots generally provide the best pheasant habitat.

Urbanization Is Restricting Our Pheasant Hunting . . .

Our Changing Pheasant Range

By Ken Gardner
Game Biologist

Progress Report No. 2

PENNSYLVANIA has lost over 850,000 acres of ring-necked pheasant range in the last quarter century due to the advance of civilization. This startling fact came to light recently as a result of the Pheasant Study being conducted by the Game Commission's Division of Research.

One of the objectives of this study was to review our present knowledge of the pheasant's current distribution in the state and to revise and bring up to date the existing pheasant range map.

The original pheasant range map, prepared about 1935, showed a total area of 7,030,000 acres in the state that were then occupied by breeding populations of pheasants or possessed those physical features that made it potential pheasant habitat. Today this range consists of 6,173,000 acres.

Along with all other game species, pheasants have definite habitat requirements. They are generally found in association with some type of agriculture. They are limited in their distribution by topography, climate, geology, land-use and ground cover. The greatest pheasant populations are found in the best agricultural areas of the state. This would indicate that their food and cover requirements are easily met in those areas of the state that have fertile soils and diversified farming. Small grains and hay fields interspersed with some type of permanent cover such as fence rows and farm wood lots generally provide the best pheasant habitat.

Every sportsman who has hunted pheasants in Pennsylvania will realize

that some areas are better than others for hunting this game bird. Even though two areas of farm land in different parts of the state may appear quite similar to the eye, one area may prove to be far superior to the other in its ability to support self-sustaining populations and provide adequate birds during the hunting season.

This is the reason why the potential pheasant range is classified according to its quality. For our purposes here, we have employed a simple classification of *first, second* and *third class* range.

First class range can be defined as that part of the total range that has an established population of pheasants. The population is capable of sustaining itself by natural reproduction and only limited stocking is employed. *Second class* range is that part of the total range where pheasants have been established to the extent that there is some natural reproduction but the population must be supplemented by the liberation of farm-reared stock in order to provide adequate birds for the hunting season. *Third class* range has all of the physical attributes of first and second class range but because of the size and lo-



PGC Photo by Harrison

OF PRIMARY IMPORTANCE to the sportsman is the fact that about 75 per cent of the pheasant range lost since 1935 is the best of the first class range in southeastern Pennsylvania. Here, over 600,000 acres have been removed from agriculture since 1935.

Map of the Ring-necked Pheasant Range classes in Pennsylvania in 1935. The loss of range has occurred within these established areas.

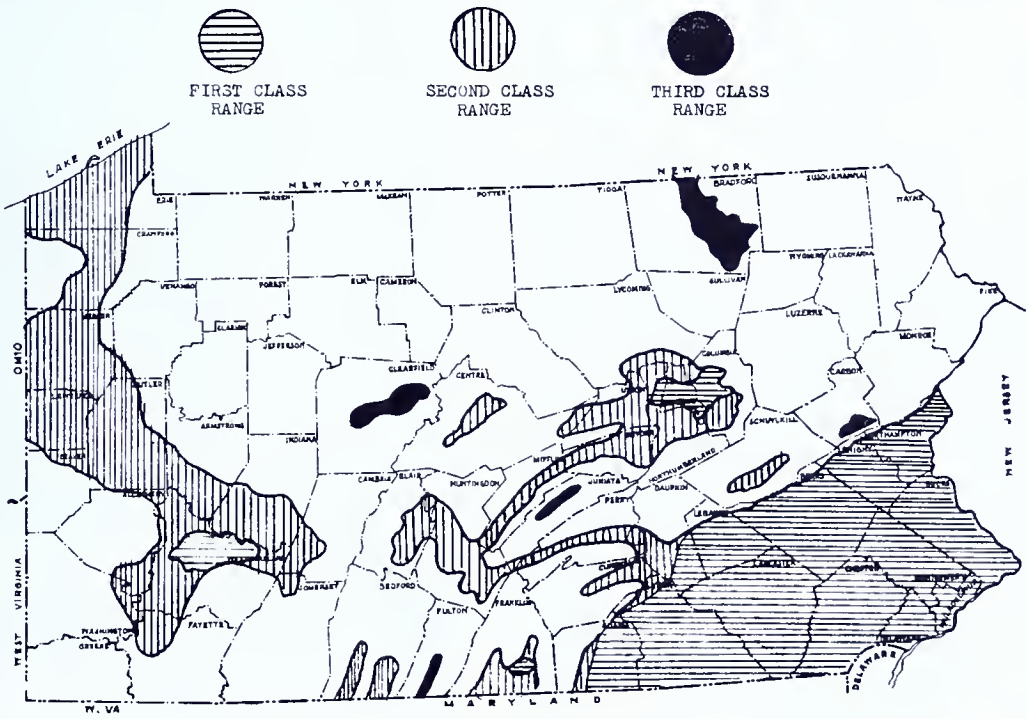




Photo by Pennsylvania Department of Highways

LOSS OF RING-NECKED PHEASANT RANGE is due to the changes in land use. Highway construction, industrial development, urbanization, and recreational development have all contributed to the decline in the over-all range.

cation of these areas and other reasons, pheasants do not produce annual broods. In *third class* range, hunting depends entirely upon annual stockings of farm-reared pheasants.

In 1935 the total pheasant range in Pennsylvania was estimated to be about 7,030,000 acres. Of this total, 3,225,000 acres were considered *first class* range; 3,565,000 acres were *second class* range; and 240,000 acres were listed as *third class* range. Recent agricultural statistics reveal that, using the same criteria for determining the extent of the range today, approximately 850,000 acres have been lost from the total potential pheasant range in Pennsylvania. Today *first class* range totals about 2,592,000 acres —a loss of 633,000 acres. *Second class* range, 3,331,000 acres—a loss of about 234,000 acres; and *third class* range now includes 250,000 acres—an increase of 10,000 acres (removed from second class range) which is actually a loss due to the fact that *third class* range does not presently support breeding populations of pheasants.

The question naturally arises: What has caused the loss of so much pheasant range? The answer lies in the fact that changes in land-use play an important role in determining the present available range. Highway construction, industrial development, urbanization, and recreational development have all contributed to the decline in the over-all range. Of primary importance to the sportsmen of Pennsylvania is the fact that the vast majority (about 75 per cent) of the area lost is the best of the *first class* range in southeastern Pennsylvania. Here over 600,000 acres have been removed from agriculture since 1935. In this same area additional acreage has been removed from hunting by the passage of local ordinances which prohibit hunting or the discharge of firearms.

What the prospects for the future?

Undoubtedly we can anticipate the diversion of still more acreage from agriculture (and hunting) to urbanization, highway construction and other factors. Wildlife habitat will continue to diminish. On the more positive side, however, we trust that research will be able to determine the factors presently limiting the pheasant's distribution in the *second* and *third class* ranges. Armed with this knowledge we hope to be in a position to provide additional pheasants in the future on land which now looks good, but lacks some requirement of this great game bird.



A DEER VIEW of the torso twist shot to the rear at release point.

UNORTHODOX SHOTS

A commentary article on the need for practice of unorthodox positions for the bow hunter, in order to be ready for any shot that presents itself while afield.

By H. R. Wambold

Photos by the Author

WITH the exception of a few, most archers have had the disappointing experience of missing game when hunting. What "rubs the salt in the wound" is the fact that in most cases these misses occur at comparatively close range, distances at which the archer is quite consistent and in most cases highly accurate.

The expert AA or A could in most cases place his shots in the five ring at the distance he missed the game—why the clean miss at distances as near as fifteen to twenty yards?

Of the many contributing factors involved, are:

(1) Cover and terrain offering few and small openings.

(2) Movement and behavior of game.

(3) Unexpected appearance of game.

(4) Lack of ability of the archer to make a shot in an unorthodox position.

Top shooting classes are composed of archers who have developed consistent release. Stance is varied in individuals, but always repeated to minute detail.

Shooting for score is done with light tackle. The archer holds long, locking the bow arm for steady release. Fine for field course shooting, it does not allow for conditions which prevail when hunting.

Let us compare the contributing

factors listed above:

Cover and Terrain

On a standard approved field course targets vary from 10 to 80 yards. In most cases an open path from shooting stake to target butt is free of obstacles. Hunting timber or brushy terrain requires finding an opening, sometimes as small as 12 inches. Faced with this handicap the field course archer is at a definite disadvantage.

Movement of Game

The target archer faces a stationary target with one factor to contend with —wind drift. Wild game very seldom remains motionless. Usually aware of your presence, game is nervous and ready for flight, resulting in a target that moves erratically, runs swiftly, or sneaks along in all possible cover, offering only small openings through which the archer must place his shot quickly and accurately.

Unexpected Appearance of Game

Game has an uncanny habit of appearing in the most unlikely places, at a time when you are caught relaxing or off balance. No time to assume a proper shooting stance, quick shooting is required from some very awkward and unorthodox positions.

Unorthodox Positions

In hunting there can be no doubt that experience is the best teacher. One of the most disturbing factors about the action of any wild animal is that no two react alike. So the more experience, the greater your ability to predict reaction of the game in advance.

I sincerely believe from personal experience that the successful bow hunter must prepare for hunting in an entirely different manner than conventional shooting methods. He must practice shots from positions as unorthodox as physically possible. Bear in mind you may hunt for 30 years and never duplicate a shot on game.

Ability to shoot fast with accuracy is a must for the bow hunter. An anchor point easily and quickly found should be developed. A shooting form from carrying position to final release of the arrow in smooth continuous motion is necessary.

Ability to hit a moving target should be acquired. Long-range shots are not advisable, and seldom probable. Ranges up to 40 yards in timber are maximum in most cases. Open field shooting may extend to 60 yards with a fair degree of accuracy. It is no problem to get within reasonable distance of game if knowledge and skill are applied.

The archer who hunts with the bow should handle and shoot his hunting tackle all year round. Shooting wooden shafts at all times, avoid that preseason transition from light bows to hunting bows. Where at all possible shooting practice with hunting broadheads is best.

Using one target for a roving type practice shooting is good. One shot is made from a stooped position; then moving forward and to one side, release the next one kneeling at a different angle. Another one is to step forward with one foot then reverse your body at the waist only keeping your feet in the step-forward position, releasing your arrow for a side shot. Step-outs right and left require keeping the other foot in normal position. Stretch the step-out leg as far as possible and shoot around an imaginary tree trunk. Cant the bow more to compensate for this abnormal position getting used to a different angle of sighting picture.

For practice at hitting that unexpected target that appears behind when hunting, try this method: turn your back to the target, start your draw from a carrying position turning as you come to anchor, release your arrow the moment your target comes into proper sighting picture.

Sitting and prone shots should be practiced. Where possible a butt should be placed near a tree; this will

afford tree shooting practice. Getting used to shooting through leaves and small openings in very unusual positions while keeping your balance provides excellent conditioning.

Game Targets

For the deer hunter a semi-dimensional target provides realistic practice. Such targets can be made by a group of archers or a club range committee. Methods of movement can vary from motor driven to hand propelled.

A styrofoam deer target can be made by laminating planks of styrofoam together until an over-all blank of 12 x 12 x 48 inches is made, cutting a life-size profile and rounding top and bottom with a rasp.

Applying several sheathing layers of burlap with a liberal layer of synthetic rubber paint between each layer will help prolong the breakdown of the inner core.

Ears, tail and legs can be made from fall-off and glued to the body. Use wooden skewers to hold till dry. Place wooden blocks in blank at two points in top of back for attachment to running cable, a third block in chest area for pulling cord.

Some artistic lifelike colors and features painted on will make the final effect. A set of discarded antlers set in the head will make for a real "deersy" appearance.

Such a unit will take 8 to 10 thousand shots before breaking down. Similar targets used at the Sull-Folk Bow Festival each year take a terrific beating and hold up quite well.

Having experimented with a cardboard type cutout target this year, I found it quite effective and cheap to construct.

Get together enough sheets of corrugated cardboard about 4 x 5 ft. such as appliance or mattress cartons, etc. Lay out a life-size pattern on one sheet and cut out, and use for pattern to trace on others. Cut enough to make a total lamination of 3-inch thickness. I found that linoleum paste is the best adhesive for laminating. Place wooden blocks for suspension attachments to cable, and pulling cord. Or laminate stranded aluminum TV guy wire cable right into the blank at the three points. Leave enough end to make loops outside when done.

Do not attempt to round body profile; leave at flat cutout. This target will stop any target shaft from bows up to 65 lbs. at ranges as close as 20 yards.

It is not advisable to use broadheads in either of these targets, as withdrawal of the shafts is almost impos-

HOW TO HIT THE TARGET BEHIND YOU is shown in this composite. (a) Starting to draw as deer is sighted behind the hunter. (b) Torso is turned to rear, feet kept pointing forward to avoid undue noise in movement, draw is half way to anchor point as game is spotted. (c) Torso twist is completed, anchor point is reached, deer is in sighting picture, and the release is made in one continuous motion.





CARDBOARD CUTOUT type target showing running cable rig, spring suspension, pulling cord and lifelike painting.

sible and the target will be ruined in short time.

Again if someone with a little talent paints the cardboard profile it will look quite lifelike (as the photos will show).

Approximate cost of styrofoam target about $50, while the cardboard job will cost about $5. These are all material costs only, labor is expected to be free.

Simple Running Rig

Spanning a length of steel cable (3/16 in.) between two trees about 75 ft. apart, thread two awning-type sheave pulleys before attaching the final end.

Taking an ordinary old type screen door coil spring which is about twelve inches in length, cut in half and attach one half to each pulley, one end to the pulley and the other to the target (two points) using the suspension blocks built into the top back of the target. The third point in the chest area of the target is for the pulling cord. A conventional chalk line of proper length will do the job.

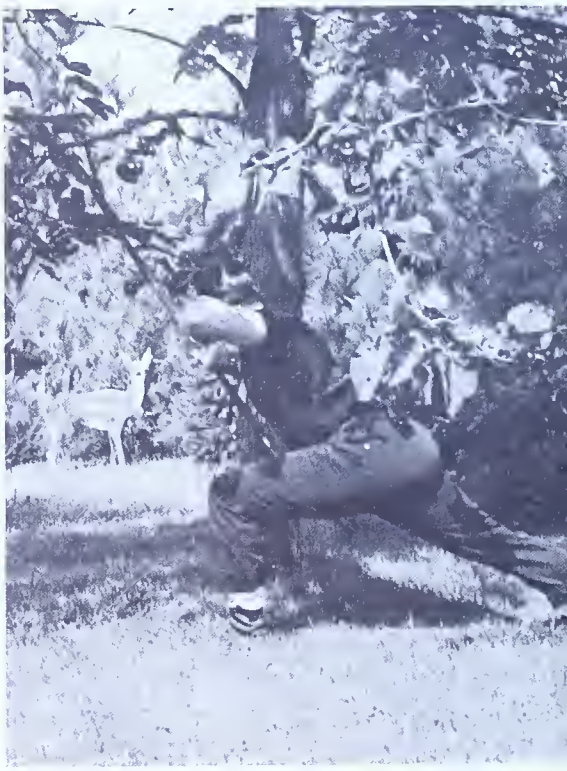
Short jerky pulls will cause the target to bob up and down on the coil spring suspension. Forward speed is regulated by the one pulling. A tantalizing action is obtained by a pause now and then, simulating the natural movement of a deer.

Placing small hooks at the attachment end of the coil springs will allow reversing the target when it reaches the end of the cable for the return trip. Otherwise it will be strictly a one-way run.

Broadhead Economy Target

An inexpensive target suitable for broadhead practice of all types of shooting can be made for pennies. Using a bushel capacity burlap bag of the type clams are shipped in, stuff it as full as possible with straw. Pucker the open end and tie shut. Tie a stout cord to both the closed end and one of the bottom corners and

FORWARD STEP-OUT to get around trees, etc. Game has an uncanny habit of appearing in the most unlikely places, at a time when you are caught relaxing or off balance.



attach to running cable.

If the bag is tightly packed with straw the broadhead will pass through and travel about 10 to 20 feet beyond to the ground. Fletching will not suffer, and the only abuse the shafts will take is the heads dulling as they hit the ground.

With longer lengths of cord attached to both ends of the bag it can be spanned between two trees. This allows placing it in an area which presents shooting through foliage or small openings in brush.

I have used such a target before seasons shooting as high as 500 shafts through same. Incidentally this is a cheap target to take along to camp for warm-up shots and afternoon practice. Area-wise and in cross-sectional dimensions it is about the same as the body of a 60-lb. deer minus legs, neck and head. Color of the burlap and physical shape closely associates the shooter with the actual body of a deer.

In closing may I say that the successful bow hunter must after having emerged from the novice class concentrate less on shooting form and practice every unorthodox shooting position he can think of. Only then can he meet the complex shots experienced in bow hunting, and climax his hunt with trophy results.

Creation of West Coast National Seashore Expected This Year

Creation this year of America's third "national seashore" was practically assured when the House passed Senate Bill 476 establishing the Point Reyes National Seashore in California on July 23, according to the National Wildlife Federation.

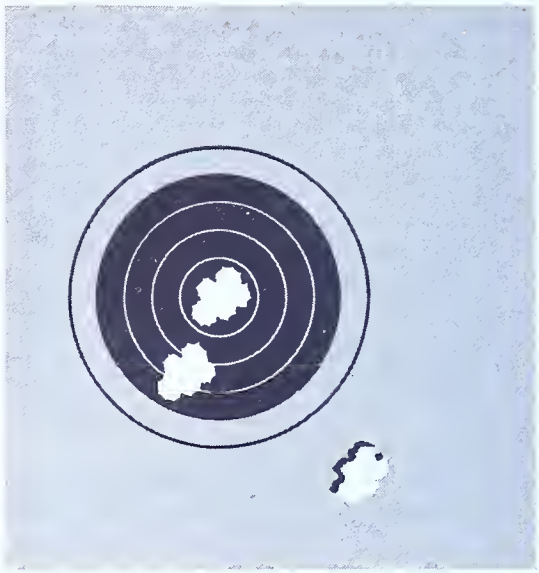
The enabling legislation, containing House amendments, has been re-referred to the Senate, and Senate leaders are deciding whether they will accept the House version of the bill and recommend it to the President for signature or call a joint conference first to iron out differences in House and Senate versions of the bill.

Portraits of the Season

October

AUTUMN flames the Appalachian woods as it does no other on this planet. The forest turns to reds, golds, yellows that glow about each haloed leaf until the air itself tints with color. The creek cuts a new course along its braided length, and a section of bank collapses bringing a black gum down across it. Livid with red-wine foliage, the branches thread and bob to the cold current, and a trout makes a futile swirl at the ink-blue berries that spill downstream. The fresh-earthed cut reveals a crumbling wolf skull half imbedded in the creek bank, its ivory teeth still gleaming and eager, but set in jaws that powder to the touch. And the long smokes of autumn spiraling through these heady days, paint pictures long gone, of those flintlock times when the forest was a thing alive that echoed from mountain to mountain in the wolf-chorused night. Thoughts turn back in bronzed October as the leaves coast and crackle in the hay-sweetened air. All things of this year have been tallied and the tide flows out. But the rutting quarrels of the polished bucks and witch hazel bushes yellowed with tiny blossoms in the dying woods speak of new life unborn.—*John Guilday*

Sighting In That Rifle



By Bill Walsh

HARDLY a modern day hunter who wouldn't laugh at the notion of carrying a muzzle-loader into today's deer woods. Yet many, through incorrect sighting in of modern cartridges, are using trajectories almost as old-fashioned. It's easy to bring these guns up to snuff and up-to-date. This article tells why and how.

A recent "sighting-in" session—held for the general public by a northwestern Pennsylvania gun club—discovered a rifle that placed its 30-06 bullet exactly EIGHT FEET HIGH at 100 yards. Its owner had carried the weapon deer hunting for several years. On questioning, he disclosed he'd never had a shot. He agreed this was probably the best thing that could have happened to him—because in addition to the certainty that he'd have missed the animal, there is no reckoning where his shots might have gone or what injury and suffering they might have caused.

A conversion job (homemade), from military to sporter, had put a new front sight on this gun but left the old one on the rear. An extreme case, of course. Probably none of us will ever hear of another gun so much out of line as long as we live.

Almost equally as shocking, however, was the discovery that out of the hundreds of guns sighted in by the club's top marksmen in several weekends of providing this service to the gunning public, only one or two were hitting where they should have been hitting.

Others were "off" from a few inches to a foot—and those that fired reasonably close weren't taking full advantage of the "built-in" possibilities offered by the various trajectories of today's modern high-powered cartridge.

Satisfied With Tomato Can

All of which proves what most serious riflemen have contended for years —that many a hunter is happy with his shooting iron if with it he can hit a tomato can (the large size) at 25 yards. It also explains why a lot of "easy" shots are missed by Mr. Average Gunner.

Apparently the principal reasons he hasn't done better in this business of sighting in his rifle are that he doesn't belong to a gun club with range facilities and he believes a lot of elaborate equipment he doesn't have are necessary for his doing a workmanlike job on his own.

This article will show how comparatively easy it is to properly sight in rifles in the popular deer hunting calibers—as well as how to take full advantage of each caliber's most effective hunting trajectory. And all with-

out a lot of range equipment.

Use a Gravel Pit

First of all, there's the question of safety. Almost every area has an old gravel pit or high stream bank that can be used—getting the owner's permission, of course—as a range.

Second, there is the question of getting at least near bench rest stability for the weapon while you're sighting in. In the absence of special equipment this can best be done by lying prone on the ground, using boat cushions, old pillows, blankets, or whatever to prop up the front end of the gun and similar material to prop up the butt at your shoulder. Experts at rifle clubs use bench rests that wouldn't budge in an earthquake as well as sand bags and specialized rests for this job. In lieu of any of the above, at least use a shooting sling to help steady your shooting — for in sighting in a gun the important question is not to find out how good the shooter is but how good is his rifle. In the absence of a sling, tie a length of clothesline around the barrel where it meets the stock and around the trigger guard. This is better than nothing at all.

A card table or a portable camping table will serve as a make-shift bench rest. In short, make do. Use your American ingenuity—but get that rifle squared away for the deer you'll be shooting at next time you have it out.

Forget Tomato Can

As for targets, forget about the tomato can technique. Get a regular 100-yard big-bore target from a sporting goods store or gun dealer. Best targets for sighting in 'scoped rifles are homemade. Use India ink or black crayon to draw half-inch lines that quarter a piece of white cardboard. Superimposing your cross hairs against these lines makes for less original error in holding the gun. This target also (by eliminating the black bull of the standard target) allows a shooter to more readily observe through his shooting scope where his sights are set without requiring additional equipment in the way of spotting scopes. And if the spotting scope just isn't in the area (or the budget) this saves temper and shoe leather in walking

THE SAFETY PROBLEM CAN BE ELIMINATED by using an old gravel pit or high stream bank for sighting in. This shooter's properly sighted-in rifle leaps with the recoil as this hunter takes a few practice shots at a running deer target.



to the target to find out wha' hoppen and back again to make adjustments for the next squeeze-off.

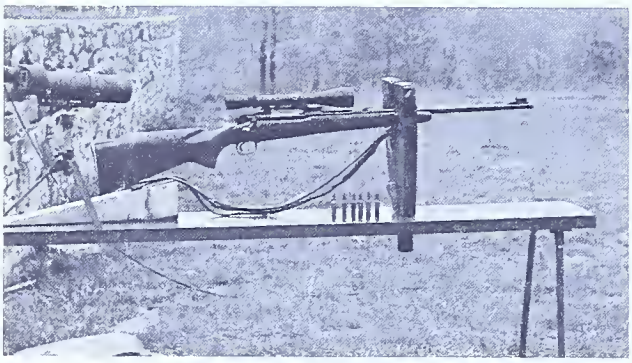


Photo by Jim Varner

IF A SPOTTING SCOPE is available, use it. This saves shoe leather and temper wasted on the trips back and forth to the target to check your scores. Accurate shooting is done by men who are breathing easy, not those winded from running back and forth.

This, in turn, makes you a better shot. For sighting in a rifle between "runs" to a target and back is almost a waste of time. Accurate shooting is done by men who are breathing easily, are comfortable, and who take their time.

Wait until you've got your breath before sighting in. Take your time between shots. This isn't a speed contest. Before squeezing off, take three deep breaths. Then take a fourth breath. Let it part way out. Then hold it until you've fired. Even your breathing will move the front end of that rifle.

Now — where should that gun of yours be shooting at 100 yards on opening day in order to give you the best advantage? We'll look at the statistics a caliber at a time. But before we do, a word about the theory of the trajectory—and how you make it work for you.

In rifle shooting there is only one straight line that enters into the theory picture. It is the line that runs from your sighting eye to the target. In a properly sighted-in gun, the bullet will travel UP to this line of sight, cross it, travel ABOVE it for a while, return to it, then travel BELOW the line of sight the remainder of its time in the air before its eventual return to earth.*

Between the points of the muzzle of your gun and its most distant effective range, then, the bullet travels in a kind of "tube" or "corridor" SOMEWHERE INSIDE OF WHICH your bullet will strike at one distance or another within this effective maximum. This is where you come in, Mr. Sighter-inner—for you have a great deal to do with how wide or narrow is this mythical shooting "tube" and how far out the effective range can be "stretched."

The Popular .30-30

Let's illustrate this further by examining the first caliber up for analysis—the popular .30-30 which is carried by more Pennsylvanians than any other. The load we're talking about is the commercial 170-grain bullet, also the most popular.

The .30-30, zeroed in at 100 yards with iron sights—the setting given it by most gunners who take the time to set sights at all—gives an extremely flat trajectory between the muzzle point and 100 yards. At 50 yards, for example, the projectile will scarcely be a half inch above the line of sight.

But Friend Hunter, who has counted on blasting his buck at 50 yards or less, suddenly emerges onto an open plateau and there, standing out against the white backdrop of the snow, waits a dandy eight-point buck—a bit in excess of 200 yards. He fires. The buck

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** (The author is aware, as will be most serious students of the behavior of hunting cartridges, that describing the path of the bullet as falling within a "tube" is not the scientifically correct manner in which to describe its path—nor is the use of the word "corridor" entirely correct. However, use of these two words in illlustrating what occurs after the bullet leaves the muzzle of the gun gives a quicker approach to understanding what actually takes place. Under natural conditions where gravity and wind immediately go to work on the bullet, its flight could probably more correctly be described as having taken place in a "Twisted Tube" or a "Twisted Corridor.")*



Photo by Russell W. Johnson

A BENCH REST IS BEST FOR SIGHTING IN, but in lieu of professional equipment, at least use a shooting sling to help steady your shot. In sighting in a gun, the important question is not to find out how good the shooter is, but to find out how good is his rifle.

flees, and the hunter can't figure out how he missed. It was easy. Because with his rifle zeroed at 100 yards, the bullet was almost nine inches low at 200. A few more inches due to human error and you're counted out.

This is also easy—and it applies to all calibers we'll discuss in this article. The gun should have been sighted in to place its bullet three inches HIGH at 100 yards—not dead center. It all goes back to this mythical shooting "tube" we talked about. Zeroed in at 100 yards, the .30-30 traveled in a tube that spanned the distance between a half inch high at 50 yards and 8½ inches low at 200—or a total of about nine inches.

Narrowed Down

Using the same gun, the same cartridge, but a different sight setting, this "tube" could have been narrowed down to six inches over the 200-yard range. With the bullet striking three inches high at 100 yards it would be 1½ inches high at 150 and only three inches low at 200. The "tube" measurement is between three inches high at 100 and three inches low at 200—or a total of six inches. A difference of three inches over the previously used mythical "tube" and much more useful in the fine art of bringing home the bacon—or the venison, in this case.

In other words it should be the aim of the hunter not to worry about where his bullet is striking at any given range—but to provide himself with the narrowest "corridor" or "tube" somewhere within which his bullet will strike at any reasonable range.

Scope sighting the .30-30 narrows the tube even further. For when a scope-sighted .30-30 strikes three inches high at 100 yards, it hits two inches high at 150 yards and only 1½ inches low at 200. The "tube" was narrowed to 4½ inches.

Ideal sight settings for the remaining popular deer hunting calibers are described more briefly below.

The .30-40 Krag, hitting three inches high at 100 yards, with iron sights, will be two inches high at 50 yards, two inches high at 150 yards, and 1½ inches low at 200 yards—its maximum effective range.

.30-40 Krag

The 'scoped .30-40 Krag hitting three inches high at 100 yards will be 1½ inches high at 50 yards, 2½ inches high at 150, and a half inch high at 200 yards. Here is a good illustration of the way in which scope sighting extends the maximum range of a rifle and its cartridge—even an "oldie" like the Krag. For in the case of the Krag



AT LEAST USE A SLING to steady your rifle. This shooter used the sitting position to sight-in his rifle. Wait until you've caught your breath before sighting in. This isn't a speed contest.

the 250-yard range finds the bullet only four inches low—something the gunner could live with.

The iron-sighted .30-06 with 180-grain bullet (the one that gives best accuracy in this gun originally designed for 172-grain projectiles) and hitting three inches high at 100 yards will place its bullet two inches high at 50 yards, 2½ inches high at 150, dead on target at 200, and only four inches low at 250. (Here it can be seen that this bullet performs for the iron-sighted .30-06 in almost the identical manner in which the scope-sighted Krag performs.)

Scope-sighted, the 180-grain .30-06 will be 1½ inches high at 50 yards, three inches high at 100 yards, still three inches at 150 (it travels a whisker HIGHER than three inches between 100 and 150), one inch high at 200 and only three inches low at 250. Returning to the "tube" theory, this gives one about 6 inches in diameter.

The iron-sighted .270 hitting three inches high at 100 yards will be two inches high at 50 yards, three inches high at 150 yards, two inches high at 200 yards and only one inch low at 250 yards—a four-inch shooting "tube" of 250 yards in length and one which the shooter can use to great advantage when hunting in wide open spaces. This is with the 130-grain bullet. For even greater range, at this setting and bullet weight, the projectile is only five inches low at 300 yards, a factor which the experienced shooter can make allowances for.

The scope-sighted .270, 130-grain, hitting three inches high at 100 yards is even flatter. It will place the bullet one inch high at 50 yards, 3½ inches high at 150 yards, almost three inches high at 200 yards, and one-half inch high at 250 yards—a four-inch "tube" up to this range. At 300 yards the bullet will be only 3½ inches low.

Armed with these figures, a bit of patience in the sighting in process (be sure to use the same type cartridge with which you intend to hunt) and any shooter can increase his chances of making either a clean kill or a clean miss—which, incidentally, always increases the chances of coming home with venison. What's equally as important—if he misses, he will know it was probably due to human error and not because he hadn't equipped himself as best he could for the hunt.

WE PAY TAXES, TOO!

In accordance with existing law, the Pennsylvania Game Commission pays fixed charges in lieu of taxes in the amount of ten cents per acre per year on State Game Lands acreage. The Department of Forests and Waters pays a like amount on State Forest acreage under their control. Many persons apparently do not realize that such a law exists and that the Pennsylvania Game Commission and the Department of Forests and Waters do pay these fixed charges in lieu of taxes.



Duck Shooting in Penn's Woods

By John W. Plowman, Jr.

AS WE approached the island, we could almost sense it was to be an exciting morning on the river. The outboard motor that sped our boat through the bone-chilling mists had aroused groups of ducks along the way. It was heartening to know that the groups of black ducks and mallards were winging their way among the islands, looking for another group of their kind, or a haven for rest and peace.

Reaching our destination, Sassafrass Island, which lies in the middle of the Susquehanna River, we saw that the ducks were competing with the dawn in finding their favorite spot.

It was still rather dark, and we could tell where those feathered rockets of the flyway were positioned just by listening for the smooth whistling of their wings beating through the chilly November air.

Upon nearing the landing, we were alerted to the presence of more ducks by the splash and quacks of at least a dozen green heads. What an optimistic forecast!

We secured and unloaded the boat, gathered our shotguns and shells, and headed up the path toward the blinds. Though only a few hundred yards from the cabin, it seemed like an eternity till we cleared the protective water birch trees and emerged onto the head of the island.

This is an ideal hunting ground—covered with scrub willows and tall grasses. The shore line, surrounded by shallow water and small coves, offers excellent spots to place the decoys.

Our stool of decoys were placed in record time, and, with shooting hours begun, we settled back in our well-camouflaged blinds for developments. Before long, ducks appeared on both

sides of the island. I began calling earnestly, hoping to deceive those birds into decoying.

Finally three of them flew over and gave us the once-over. They were too high for shooting, so I talked fervently and they made a few turns and settled into our decoys. What a thrilling sight, seeing the ducks coming right to us, wings set for landing. How could any duck hunter ever complain that he doesn't get his money's worth out of his duck stamp, when he can thrill to the sport and beauty of such an occurrence?

Excitement Unbearable

When the ducks alighted on the water, the excitement and tension mounted until it seemed to be unbearable. After several impatient seconds, we jumped to our feet, bringing our guns to bear on the surprised black ducks. They were out of the water in a second, but not fast enough to escape our No. 4 shot. Two of them went down in an explosion of feathers, with the third requiring two additional shots. Though covered by only feathers, these ducks are hard to kill because their feathers are very dense, like a coat of armor. This is the reason for using high brass ammunition for waterfowl. It is more humane to spend a little more money for high-powered ammunition, and make a clean, quick kill.

The Labrador retrievers then went to work, swimming out and retrieving the targets, in the manner for which they were so carefully trained. These experiences do wonders for relieving the numbness of cold feet and hands.

The satisfaction derived from a sport such as this always overrides any intentions of filling the daily limit to the real duck hunter. The duck hunter is in a class by himself—often sitting many a cold morning in a blind, with cold extremities and no one near him for companionship. Though this may sound a bit discouraging, the hunter with patience and who possesses the love of real sport will always tell you of its true rewards.

To me, just the sight and being near these beautiful waterfowl is worth the discomfort of cold, bad weather, isolation, and any other item the critic can come up with. Though it's always gratifying to hear the old shotgun go to work, the enjoyment of being close to nature and these birds will always bring peace of mind and satisfaction to me.

Don't get the idea that one is limited to hunting ducks just from blinds on a river island. Fortunately, with the combination of nature's providing varied types of cover for waterfowl, and man's occasional ingenuity to outwit the lesser species on this earth, the hunter can successfully hunt with a duckboat, from floating devices, along creeks and lakes, and just stalking them over grain fields where they congregate to feed.

Let us dwell on these, show their merits and perhaps describe the most sporting methods to hunt with them.

Hunting From a Boat

Hunting from a duckboat is definitely one of the more successful methods to get a crack at ducks or geese. The duckboat itself sits very low on the water. It may be 8 to 10 feet long. Some are built like kayaks, others may resemble canoes. They usually seat one person, others may seat two at the most.

The hunters have a set of decoys sitting out on the water, usually in an area where ducks are known to frequent. They may have 15 to 40 decoys out. Since ducks often like to "raft" together, the larger decoy stool is often very effective. Upstream, along the shore or behind rocks or fallen trees, waits the hunter. When ducks come into the decoys, he slides his boat out from his protective cover and lying down as flat as possible, quietly paddles toward the decoys.

The intention of the boat is to resemble a floating log debris, or anything that doesn't look like danger. Some boats are equipped with a dull-





MOST BLINDS ARE CONSTRUCTED of brush and other natural cover that grows in the vicinity. This material is attached and built up by securing it to chicken wire, wood frameworks, logs or other permanent supports.

painted blind, that is, a wide board that runs the length of the boat on the one side. Behind this the hunter hides. Other boats are merely tilted so long as the hunter is hidden. The boat approaches the ducks sideways.

When in range of the ducks, the hunter maneuvers the boat to an even keel and is set for good shooting. The ducks, while being very wary, generally won't spook until the hunter floats within 30 feet of them. After collecting his kill, the hunter simply paddles back to his hiding place to await the next flocks of ducks to come by.

In the Middle of Things

As for the hunter that prefers to be in the middle of things, the floating blind should be very suitable. Often anchored or positioned in an area that lacks islands or other natural cover, the floating blind can be used with success. The ones that I observed were anchored in the middle of the river. The hunters had the decoys spread around them, and they were in on some fine shooting.

In my locale, the floating blinds are usually converted flats, rowboats, barges, or other wide-beam vessels. A framework supports the mass of brush, grass or other debris that makes it appear as an island. Though blind hunting has been dwelled upon, I do want to emphasize that this method is used more than the others.

Most blinds are constructed of brush and other natural cover that grows in the vicinity. This material is attached and built up by securing it to chicken wire, wood frameworks, logs or other permanent supports. Usually it's 4 to 6 feet off the ground. The rear part of the blind is usually higher, with perhaps an overhang to keep the heads of the hunters from protruding too much.

Some hunters prefer a higher blind —that is one built on piers or other supports that keep it 6 to 10 feet off the ground. These permit more freedom to the shooter and increase the field of vision of the hunter. These are used more where the water is affected by tides or by occasional flooding. They are excellent for areas heavily wooded with trees or higher brush.

Creek and pond hunting is productive also, where the hunter can conceal himself behind trees, or other shore line vegetation. I do a considerable amount of this, having access to a strip of creek through the courtesy of a farmer.

A group of large trees, closely

spaced, affords convenient concealment and still gives me a clear view up and down the creek. I made another blind around a fallen tree, grown over with vines and further concealed by the debris of years of spring floods. Between these two vantage points lay my decoys, arranged on the water in an uneven pattern. This seems more natural to the ducks, and permits them to relax their usual caution.

To the Creeks in Foul Weather

I have found the creeks to be the best bet on stormy or windy days, especially when the rivers and lakes are blowing whitecaps and discourage the waterfowl.

The ducks head for the calmer and more inviting creeks and smaller lakes and ponds when this condition exists. Good wing-shooting is in order when they go up and down those creeks; making those shots seem like they take all day to catch up to the ducks. For me, bagging a duck occasionally in conditions like this makes hunting worthwhile.

The creeks and lakes support ducks such as: teal, wood ducks, mallards, blacks, some pintails and baldpates. The winter weather and icy conditions bring in terrific amounts of bufflehead, mergansers (those good tasting and sweet smelling friends), bluebills, or whistlers and other diving ducks.

For the hunter who has access to grain fields, which are known to attract ducks, there is no reason why he can't acquire some good shooting at these places. Ducks love corn and other grains, and with a properly built blind and some decoys, a trip to these areas will be worthwhile.

The hunter that can withstand the freezing temperatures, and those frozen decoy ropes and blocks, surely deserves some shooting—that is if his fingers aren't too stiff to find the trigger guards. What misery there is when you get that icy water down your boots, or get your gloves and clothes splashed, trying to set out your decoys with a bunch of interested mallards flying overhead!

It's a great sport though, and I wouldn't rate it anything but number one. If you want some real hunting, and have an appetite for a delicious meat, try duck hunting. Penn's Woods offers only the finest, with plenty of spots to hunt, and anyone who has the urge and ambition for some satisfying gunning can do it.

All you need is a hunting license plus a migratory waterfowl stamp, some water or a couple of good cornfields where the ducks are known to rest and feed, and you're in business. Good luck and happy hunting!

CREEK AND POND HUNTING IS PRODUCTIVE ALSO, where the hunter can conceal himself behind trees, or other shore line vegetation. A group of trees, closely spaced, affords convenient concealment and still gives a clear view up and down the creek.



HUNTER SAFETY EDUCATION



Photo by New Castle News

HUNTER SAFETY GROUP OFFICERS in Lawrence County plan courses with District Game Protector Calvin Hooper (left). John Copitis of Elwood City is President, Bob Moorhouse of New Bedford is Vice-President and Mrs. Helen Turner of New Castle is Secretary-Treasurer.

Lawrence County Forms Hunter-Safety Program

Lawrence County hunter-safety instructors met in June to organize and promote the Pennsylvania Game Commission's hunter-safety program in their area.

Twenty instructors were present along with District Game Protector Calvin A. Hooper who is coordinator of the hunter-safety program for Lawrence County.

The group is known as The Lawrence County Hunter-Safety Instructors Group and the newly elected officers are:

President — John Copitis, Elwood City
Vice-President — Bob Moorhouse, New Bedford
Secretary — Helen Turner, New Castle

Some of the problems discussed at this meeting were: providing instruction for students, a more uniform program for the county, raising funds for materials and equipment and reporting students to the Pennsylvania Game Commission.

Shippensburg Sportsmen Aiding Hunter Safety Education Program

Nineteen youths in the Shippensburg area have completed a Pennsylvania Game Commission hunter-safety course sponsored by the Shippensburg Fish and Game Association.

The course was taught by hunter-safety instructors Melvin Strohm and H. Ric Luhrs to familiarize young hunters with hunting safety, proper handling of firearms and ammunition, farmer-sportsman relations and game laws.

The course was given in cooperation with District Game Protector George Bretz, coordinator of the hunter-safety program for the area.

The following Wayne County clubs have also been active in club-sponsored hunter-safety programs in their areas:

Galilee Hunting Club
Lookout Sportsmen's Association
Conklin Hill Hunting Club
Boyds Mills Hunting Club
Hollister Creek Hunting Club
Tyler Hill Hunting Club

We know there are more, let us hear from you.

Pa. Game Commission
Hunter Safety Certified

To Date:

Instructors—3,801

Students—43,902

Northumberland Scouts Receive Instruction

The hunter-safety program has been well coordinated in Northumberland County under the direct supervision of District Game Protector Clyde E. Laubach.

This was supported recently by a group of Boy Scouts representing the Paxinas Ash Grove Church Troop 250 who completed the hunter-safety course prescribed by the Pennsylvania Game Commission.

Qualified hunter-safety instructors Bill Shutt and Dave Steel, from Elysburg, instructed the four-hour minimum course recommended by the Commission. However, the Ash Grove group received a total of seven hours of instruction over a period of seven weeks.

The course given by these certified instructors covered such subjects as proper handling of sporting arms in circumstances dealing with hunting in general, basic information on guns and ammunition related to safe use, and farmer-sportsman relations.

The Scouts sign the following pledge: "I pledge to conduct myself as a sportsman and will always treat my shooting arm with respect due a loaded gun, always point a gun in a safe direction, be sure of my target before I shoot, never put a loaded gun in or on an automobile, always respect the landowner and his property and be considerate of other hunters."

Hunter-Safety in Erie

Erie County District Game Protector Ralph E. Flaugh, of Albion, reports that Deputies First and Jones helped the Gem City Sportsman's Club of Erie conduct a hunter-safety course there. A class of 28 boys completed the course on the club grounds in mid May.

Pennsylvania Rabbit Traps Become Hollywood Stars

Game Commission officers get many unusual requests for service but none any stranger than a long distance phone call received in August by Ralph Britt, Chief of the Propagation Division in Harrisburg. As a result of the urgent call from Hollywood, he arranged to loan Paramount Picture Corporation three of the Commission's rabbit box traps, widely used during the winter in Pennsylvania's rabbit trapping and transfer program.

Further investigation revealed Paramount wanted the box traps shipped via air express collect for use in filming a TV "short" on the off-season activities of famous ballplayers. In this case, the star was Jack Sanford, pitcher for the San Francisco Giants and former Philadelphia Phillie mound ace. Sanford spends the off-season at his home in Prospectville and each winter live-traps rabbits under the direction of Montgomery County Game Protector Ed Sherlinski. Last winter Sanford was successful in trapping 45 cottontails which were transferred from suburban areas and released on open hunting grounds.

The film starring the Pennsylvania pitcher and box traps will be shown on television during the 1962 World Series this fall. Paramount didn't promise that the San Francisco Giants will also star in the same Series, although they figured their home team —the Los Angeles Dodgers—stood a pretty good chance of making the play-offs.

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Don't Forget GAME NEWS

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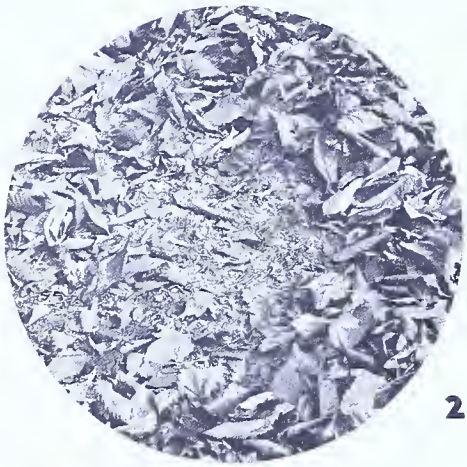


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Who Leaves Th

By

Phot

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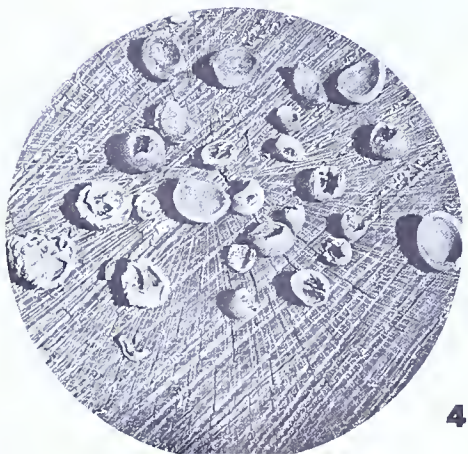
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of the wildlife are also listed in scramble
scrambling the names and matching them
swers on page 47.)



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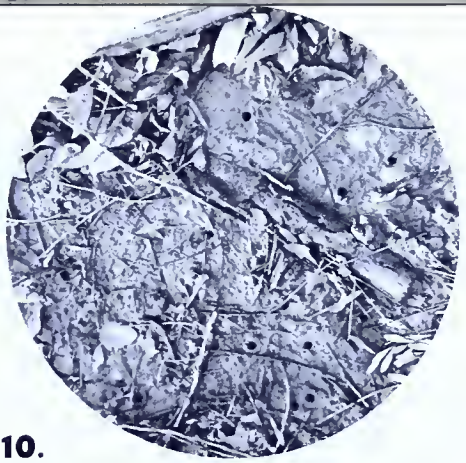
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FIELD NOTES



Out-Foxed

FULTON COUNTY – I had two farm boys with me while looking at fox traps on their father's farm. As we approached a set, we were pleased to see a gray fox pup bouncing around. Our pleasure was short lived, for as we approached, the fox ran away. A small opossum was in the trap and the fox pup was needling him.–District Game Protector Carl Jarrett, McConnellsburg.

Duck Shows Appreciation

VENANGO COUNTY – Judd Bannon was fishing in the vicinity of Rockmere when he saw two ducks swimming near a big rock. One of the ducks seemed to be having some sort of difficulty. It kept swimming around in circles. Rowing over to investigate he found that it had a bass plug stuck in its back and the line connected to the plug was caught in some rocks. After he had extracted the plug with a pair of pliers the duck swam across the river to its buddy. In a few minutes both ducks swam back to Judd as if to thank him and then headed upstream. – District Game Protector John R. Miller, Oil City.

Wildlife Killed By Hail

ADAMS COUNTY – Monday evening, July 23, a freak hailstorm hit the communities of Cashtown and Orrtanna in Upper Adams County. Residents say it was the worst hailstorm in seventy years. The hailstones were the size of golf balls virtually destroying peach and apple orchards in those communities. Fruit trees were stripped of leaves, bark and fruit. Cornfields were leveled by the storm. I had many reports of pheasants and rabbits that were found killed by the hail. In one instance Deputy Kenneth Biesecker reported an entire brood of eight half-grown pheasants and the mother hen that were found dead after the storm.–District Game Protector John Spahr, Gardners.

Killer Coons

JEFFERSON COUNTY – John Bauer, of Summerville, reported he frequently was awakened at night by rabbits squealing. By the time he would get his gun and go outside, the animals which he thought were cats, would scamper off. One moonlit night, however, he was able to get out in time. Instead of cats he found coons; two of them and each had killed a half-grown rabbit. I have heard of coons taking young rabbits from the nest but this is the first I heard of their killing adults. – District Game Protector Robert Ellenberger, Punxsutawney.

Snakes-a-Plenty

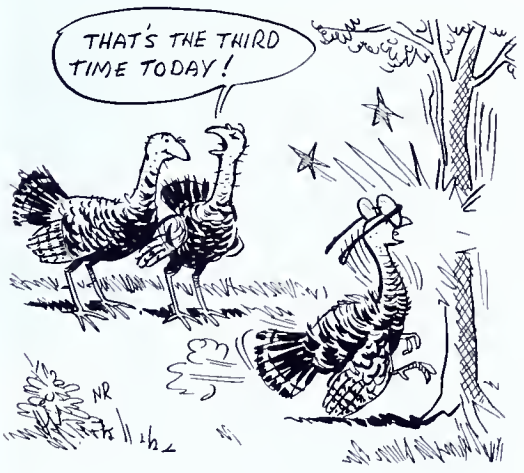
WARREN COUNTY–To date there have been 26 timber rattlesnakes taken at State Game Lands No. 29. Twenty-four were taken alive and two killed. –District Game Protector David Titus, Warren.

Spare-Time Predator Control

ROSS LEFFLER SCHOOL OF CONSERVATION—The Student Officers at the Ross Leffler School of Conservation caught 53 combined species of animals in a period of 16 days on State Game Lands No. 54. This number includes six red foxes, one gray fox, twenty-two raccoons, four skunks, one opossum, and nineteen miscellaneous animals. All trapping was done in spare time, and it points out that with a little effort the sportsmen of Pennsylvania could help improve conditions for small game in their own areas.—Student Officer Charles J. Williams.

Near-Sighted Turkey

POTTER COUNTY — Food and Cover Corps Foreman Earl Hyde might find turkey hunting this fall a rather difficult task. Earl says, "I won't shoot at any turkey until I locate the culprit wearing my glasses." Earl lost a case containing a new pair of glasses last winter while filling turkey feeders with corn. During the latter part of June, case minus the glasses was found beneath one of the Commission feeders. Mr. Hyde, however, made a personal recommendation — "Feed them carrots instead of corn; they won't need glasses."—District Game Protector H. Richard Curfman, Coudersport.



Narrow Escape

VENANGO COUNTY—While driving down the road, Jack Weaver, lease foreman, saw a big bird sitting off to the side. It was flapping its wings and he thought that the bird was injured. So he stopped his truck and got out to investigate. A large hawk took off leaving a young ground hog lying on the ground. He walked up to the ground hog and noticed that it wasn't injured too badly. So, he picked it up and placed it in a large box that was on the back of the truck. As he was driving down the road he glanced through the rear window to see how his new friend was coming along. The woodchuck had crawled up to the edge of the box and was looking back through the window at him. He stopped the truck and the woodchuck jumped over the side and soon disappeared into the undergrowth along the road. It seems that the young woodchuck had had enough for one day. — District Game Protector Jack Miller, Oil City.

Lots of Bunnies

WESTMORELAND COUNTY — I counted 27 rabbits last evening in a walk of little over a mile. The rabbits were feeding on clover next to a very thick hedge of multiflora rose. It looks like we have a very good rabbit population in this area at least.—Conservation Information Assistant Samuel K. Weigel, Ligonier.

Snake Kills Power

BEDFORD COUNTY—Some 1,800 customers in a 50 square mile area were without electric power as the result of a five-foot black snake. It is believed that the snake had raided a bird's nest near a transformer and was electrocuted as it crossed two wires on its way down the structural framework. The short circuit blew a fuse and burned the snake into three pieces.—District Game Protector John Troutman, Everett.

One Blessing in Drought

BRADFORD COUNTY—The recent drought which most of Pennsylvania has experienced this summer certainly has not been good for farm crops. However, the dry weather conditions have been ideal for wildlife reproduction. Rabbits, deer, pheasants, etc., are showing up in good numbers this summer. — District Game Protector Donald E. Watson, Towanda.

Green Stamps Here, Too?

MONTGOMERY COUNTY—Many times upon settlement of a Game Law violation, by means of the field receipt, the violator, upon payment of his fine, will ask: "Is this tax deductible?" "How many birds will this buy for stocking?" "Does this entitle me to a free subscription to the GAME NEWS?" I thought I heard them all, until a most recent case. Upon settlement of a violation, the violator demanded $10 worth of S&H Green Stamps. He stated that food stores, car dealers, service stations, taprooms and you name it gave stamps in Philadelphia, "Why not the Game Commission?" For twenty minutes I tried explaining the reasons but none seemed to satisfy him.—District Game Protector E. F. Sherlinski, North Wales.





Car vs. Gun

HUNTINGDON COUNTY—Glenn Houck, a local sportsman who has been hunting for the past twenty or more years, told me the other day that his wife has to get only one more buck to be ahead of him. It seems she killed her first one three years ago and she has killed one a year since then. The only difference is he is using his rifle and she is using her automobile. He wonders if he shouldn't trade his rifle in on a hot rod and do a little more driving.—District Game Protector Lloyd B. Welch, Three Springs.

Tarred Babies

GREENE COUNTY—It was a very hot June afternoon that melted the road tar upon which Pete Busti, of Crucible, was cautiously driving his car. Suddenly Pete stopped to investigate why some small birds refused to move from the vehicle's path. He was amazed to find twelve pheasant chicks, all with their feet held fast to the road by the gummy tar. Pete removed them one at a time to the side of the road where he dusted their feet with some fine dry sand. The enraged mother hen repeatedly attacked Pete but the Good Samaritan understood her actions and went on to complete his fine deed.—District Game Protector Theodore Vesloski, Carmichaels.

Jack of Many Trades

ROSS LEFFLER SCHOOL OF CONSERVATION — When I go on weekend leave, one of the most frequent questions asked me is: What do you study? Mostly law? This seems to be the general opinion the public has of a Game Protector's duty. When I tell them some of the subjects we have had lately such as map reading, timber cruising, predator control, first-aid, public speaking, Pennsylvania geography, land management and game law they soon see a Game Protector's duties cover a multitude of things besides law enforcement.—Student Officer James C. Hyde.

Kitty Coons

BRADFORD COUNTY — On July 11, I traveled to Mud Creek Road near East Troy on what I thought was a routine "raccoon complaint." For a change the raccoon wasn't doing any damage to this property owner, but he did have three of the little rascals that he wanted to get rid of. He stated that that morning his wife looked out on the lawn just in time to see their "Tom" cat come strolling by with three little coons trailing single file behind him. Now just how "Tommy" got to be foster mother for this brood is anyone's guess.—District Game Protector Richard W. Donahoe, Troy.

Cat After Weasel After Squirrel

ROSS LEFFLER SCHOOL OF CONSERVATION — This story of how a cat saved the life of a red squirrel was related to me by a friend of mine who lives in Putneyville. It seems one day he was standing on the porch of the general store in Putneyville when he heard a squirrel squealing. He looked over on the hill and saw a weasel chasing a red squirrel toward a tree. As the weasel caught the squirrel, the cat sprang out of the grass at the weasel. As a result all three went free. — Student Officer Harry T. Nolf.

Mountaineers Take a Lesson

SOUTHWEST DIVISION—During the past month, three officials of the West Virginia Fish and Game Commission spent two days in our Southwest Division checking on our Farm-Game Project setup. Part of one day was spent in the office going over the legal aspects of the Project and the rest of the time was spent in Somerset County checking on field application. —P-R Area Leader Bruce W. Catherman, Ligonier.

A Fry Pan Mama

LANCASTER COUNTY—John Roland, Jr., secretary of the West Earl Sportsmen Club, told of his experience with pheasant eggs at the monthly meeting. A farmer mowed a field near his home and ruined a pheasant nest and all eggs except six. John picked up the eggs and took them home but was unable to find a hen that was willing to hatch them. He asked his wife if she would lend him the electric fry pan and she agreed. A Turkish towel was placed on the bottom and sprinkled with a little water. Then the eggs were placed on the towel and the heat was turned to warm—the incubator was at work. On the seventh day all of the eggs produced a chick and they are doing fine. — District Game Protector W. E. Woodring, Ephrata.





Drought Has Changed Wildlife

NORTHEAST DIVISION—The dry weather caused a change of habit for the various species of game. Deer traveled a much greater distance for water since many of the usual watering places were dry. Turkeys changed their feeding habits. Many of the food plots that provided an abundance of insect life were very dry and grasshoppers were scarce. The dry weather might have caused a shortage of caterpillars. Many of the long-billed birds that depleted worm populations in other years dug for grubs in lawns.—Supervisor Roy W. Trexler, Dallas.

Tail Cover

BUTLER COUNTY — During the month of July while working on State Game Lands No. 95, in Butler County, Food and Cover Corpsmen Detmar Hutchison and Howard Hiwiller noticed a wild turkey hen with two poults on one of the mowed food plots. At the same instance they observed a red-tailed hawk flying low over the same plot. Immediately the mother turkey stood motionless and the two turkey poults ran under her tail attempting to avoid the keen eyes of the hawk. The cover corpsmen scared the hawk away and the poults were safe. During the same month one wild turkey hen was observed with nine poults, another with five; obviously it was a good, dry nesting season for these birds.—Land Management Officer Woodrow Portzline, Slippery Rock.

A Grouse Producing Year

SNYDER COUNTY — During the month of June close observation of three grouse nests by members of the Shade Mountain Archery Club of Snyder County yielded the following results: One nest of fourteen eggs produced thirteen young and one nest of ten eggs produced ten more. The last which had been disturbed by black snakes contained ten eggs, one of which had been swallowed by a black snake. These eggs were placed back in the nest after the snake was killed and the egg regurgitated. Hard to believe but all ten eggs in this clutch hatched under the watchful eyes of the club members. — District Game Protector Ivan L. Dodd, Middleburg.

More Deer Prefer Camels

FOREST COUNTY—Had the task of picking up a tame deer that someone kept as a fawn and then discarded. The year-old doe became a real pest in local gardens. It had developed a liking for cigarettes and time and time again, if three different brands were offered it, it would eat the Camel first.—District Game Protector David Kirkland, Marienville.

A Field of Birds

SCHUYLKILL COUNTY—On July 25 on State Game Lands No. 106 in Schuylkill County while mowing wildlife strips, three different species of game birds were seen in a three-acre field. A bobwhite quail with eight peeps, a wild turkey with twelve chicks and a flock of ten or twelve pheasants about ten weeks of age. These birds were seen within a five-minute period; the field also contained numerous rabbits. This certainly testifies to the fact that the strips do make good nesting and feeding areas for game and help to keep the game on areas open to hunting.—Land Manager B. A. Drasher, Orwigsburg.

CONSERVATION NEWS



PGC Photo by Harrison

EXAMINING THE CONFISCATED GUNS at the Game Commission are a few of the more than 1,000 persons that looked at the guns during the week of August 13-17. The 72 guns brought $2,015.70 in the sealed bid sale.

72 Confiscated Guns Sold by The Pennsylvania Game Commission

The Pennsylvania Game Commission's Division of Law Enforcement reports that 72 confiscated firearms sold for a total of $2,015.70 in the August sealed bid sale.

The guns were on display during the week of August 17 in the Commission's offices at the State Capitol. High bidders on each gun were notified shortly thereafter.

Considerable interest in the "ill-famed" guns attracted over 1,000 persons. A total of 4,546 bids on 578 bid forms were submitted by prospective buyers.

The 72 guns were confiscated over the past two years from more serious offenders of the Game Law. Anyone interested in bidding on such guns in the next sale is asked to file his name at any time with the Division of Law Enforcement, Pennsylvania Game Commission, Box 1567, Harrisburg, Pa. These persons will be notified prior to the next gun sale.

Golden Reports 20% Increase In Waterfowl Production

In a recent statement, M. J. Golden, Executive Director of the Pennsylvania Game Commission, said:

"Each year we ask our field officers to provide us with information comparing waterfowl breeding populations and production with the previous year. These reports have just been received. In addition, our Waterfowl Management Agent, Ray Sickles, of Meadville, travels widely over the state studying waterfowl conditions in the better breeding areas along the Susquehanna, Delaware and Schuylkill Rivers and especially the Pymatuning area of northwestern Pennsylvania.

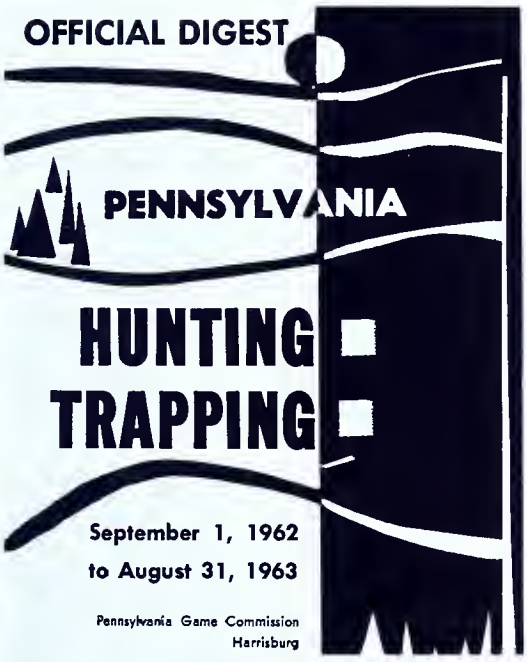
"These reports, as well as observations by many sportsmen and avid duck hunters, indicate an increase of about 20 per cent in the production of mallard ducks and Canada geese this year. These two species are the most common nesting waterfowl in Pennsylvania. Although we have a fairly large number of nesting wood ducks, most of these birds, as well as other ducks such as scaup, black duck, redhead, canvasback, widgeon and teal are produced in areas farther to the north. Unlike the New England States, New York and New Jersey, we get many of our ducks on their migration flights from the Canadian Prairie Provinces, the Dakotas and Minnesota—the so-called "duck factory" of the North American continent. We also get many black ducks and mallards from nesting areas in the Maritime Provinces of eastern Canada.

"Here in Pennsylvania, the waterfowl breeding population this spring was about the same as in recent years and weather conditions during the nesting season were good, despite the drought. Most of the young ducks were hatched before the dry weather set in and even then, there was no major drying-up of marsh, pond and river waterways. In fact, the dry weather probably helped the survival rate of young ducks and geese.

"In addition to the increase in nesting success, the Game Commission for the past several years has been building up a local nesting population of mallard ducks through our artificial propagation and release program. This year, for example, our State Wild Waterfowl Farm at Meadville produced 9,741 mallard ducklings. They were released throughout Pennsylvania during June and early July when they became 12 weeks of age. These ducks, as well as mallards produced in previous years, tend to return to their release sites each spring, thus building up a native population of breeders.

"Nevertheless, I wish to again emphasize that, despite a fairly bright picture of waterfowl conditions in Pennsylvania this year, much of our fall duck population is produced on northern breeding grounds. Most of the ducks that will be available to hunters this fall only pass over Pennsylvania on their way to wintering grounds to the east and south of us. For this reason, we are very much concerned with the waterfowl situation throughout the nation, especially in the Atlantic Flyway and on the major breeding grounds of the prairie provinces and states.

"The U. S. Fish and Wildlife Service is responsible for the management and harvest of this nation's waterfowl resource. We certainly could not recommend any season or bag limit for Pennsylvania which would not conform to their recommendation for the rest of the nation or, specifically, the Atlantic Flyway."



OFFICIAL DIGESTS may be obtained upon purchase of the 1962 hunting licenses. Persons interested in acquiring additional copies may get them from any Game Commission office.

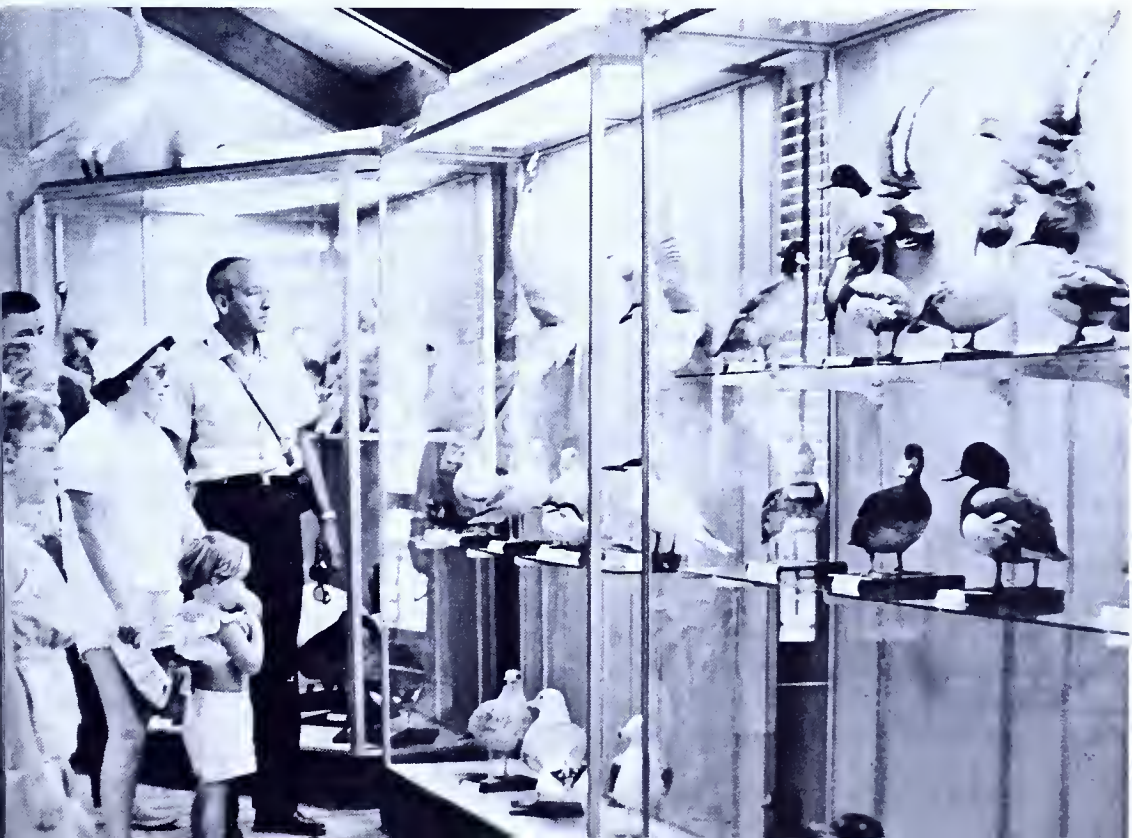
Be Sure You Get Official Digest

Every person who purchases a license to hunt or trap in Pennsylvania this year will receive an "Official Digest of Pennsylvania Hunting and Trapping Laws and Regulations." Printed in dark blue ink, this pocket-size folder contains answers to most questions asked about firearms, bow and arrow hunting, possession and transportation of game, bounty payments, licenses, and current hunting seasons and bag limits. The new size for this official digest was adopted last year so that it can be kept right with your hunting license tag.

Be sure you get your copy of this "Official Digest" when you purchase your license from the issuing agent. The list of hunting seasons and bag limits are not printed on your license tag—but they can be found in the pocket folder "Digest."

NEW LIGHTS BRING NEW LIFE to the waterfowl specimens at the Game Commission's Waterfowl Museum at Pymatuning in Crawford County. The new fluorescent lights above each case were installed recently for better public viewing of birds of the Pymatuning area.

Photo by Reed McCaskey, Photo-Graphic Arts



1962 Pennsylvania Waterfowl Seasons Established

The 1962 hunting season for ducks and coots in Pennsylvania will open October 20 and close December 8. The season for geese and brant will start October 10 and end December 8, except in Crawford County where the goose and brant season will run concurrently with the duck season. On the controlled shooting section of the Pymatuning Goose Management Area in Crawford County the waterfowl shooting season will begin Monday, October 22.

The shooting hours on October 20 for all waterfowl will be 12 o'clock noon, Eastern Standard Time, to sunset, and on *October 27, opening day of the small game season, 8 a.m., EST, to sunset.* On all other days of the waterfowl season the shooting hours are *sunrise to sunset.* On October 20 all hunting, except archery for deer, is unlawful prior to 12 noon, EST.

The daily bag limit for ducks is 2 and the possession limit after the first day is 4, except that the daily bag and possession limit may include only one wood duck and one hooded merganser. In excess of the above limits, 2 additional scaup ducks are allowed in the daily limit and 4 additional scaup ducks in the possession limit. Again in 1962 there is *no open season on canvasback and redhead ducks* as in the previous two years. The daily bag and possession limit of coots is 6.

American and red-breasted mergansers are not included in the bag limits for other ducks. They have a separate bag limit of 5 a day or 10 in possession, either singly or in the aggregate.

The daily bag limit for geese (except snow geese) is 2, except in Crawford County where the Canada Goose daily bag limit is 1 and the possession limit after the first day is 4. The daily bag and possession limit for brant is 6.

Duck Stamp Needed

In addition to a 1962 Pennsylvania hunting license a Federal Migratory Bird Hunting Stamp is required to hunt waterfowl. The $3 "duck stamp" is sold at most Post Offices. This stamp is not required to hunt migratory birds other than waterfowl. Doves, rails, gallinules, snipe and woodcock may be hunted without the duck stamp.

Shooting dates, hours and limits for migratory birds are set within the framework established by the U. S. Fish and Wildlife Service. Because of the continued drought in the primary duck production areas and lower duck populations as compared to some previous years, the 1962 seasons, shooting hours and bag limits for ducks are comparable to 1961.

Meadville Tribune Giving Trophy for Duck Band

If you shoot a banded duck this season and the band number is 110640, you win a trophy donated by the Meadville Tribune Publishing Company.

The last wild mallard duckling released from the Game Commission's Wild Duck Farm in Crawford County carries this valuable band.

Robert E. Latimer, retired Game Commission Waterfowl Management Agent, completed his 37 years of service with the release of the last duckling in late June. The trophy is therefore named in his honor, the "Bob Latimer Trophy."

The Game Commission band number 110640 is the same as all other Game Commission bands except, of course, for the number. Any person finding this band or shooting the bird during the waterfowl season should contact the local Game Protector or the Pennsylvania Game Commission, Harrisburg.

1962 PENNSYLVANIA OPEN SEASONS FOR WATERFOWL AND OTHER MIGRATORY GAME BIRDS UNDER FEDERAL AND STATE REGULATIONS

Species	Open Seasons First Day	Open Seasons Last Day	Daily Bag Limits	Maximum Possession Limits	Shooting Hours
Doves	Sept. 1	Nov. 9	12	24	12 O'clock Noon EST to Sunset
Sora	Sept. 1	Nov. 9	25	25	Sunrise to Sunset, except as below**
Other Rails & Gallinules	Sept. 1	Nov. 9	15	30	
Wilson's or Jacksnipe	Oct. 1	Oct. 30	8	8	
Woodcock	Oct. 13	Nov. 21	4	8	
*Ducks (exceptions below)	Oct. 20	Dec. 8	2	4	Oct. 20 - 12 Noon EST to Sunset**
Mergansers - American & Red-breasted	Oct. 20	Dec. 8	5	10	Oct. 27 - 8 A.M. EST to Sunset**
Coots	Oct. 20	Dec. 8	6	6	Other Days - Sunrise to Sunset
Geese - Crawford County only	Oct. 20	Dec. 8	1	4	EXCEPTION - Controlled Shooting Section of Pymatuning Goose Management Area - Sunrise to 12 Noon EST, on Monday, Wednesday, Friday and Saturday, beginning Monday, October 22, 1962.
Geese - Controlled Shooting - Pymatuning Goose Management Area	Oct. 22	Dec. 8	1	4	
Geese - Remainder of State	Oct. 10	Dec. 8	2	4	
Brant - Crawford County only	Oct. 20	Dec. 8	6	6	
Brant - Controlled Shooting - Pymatuning Goose Management Area	Oct. 22	Dec. 8	6	6	
Brant - Remainder of State	Oct. 10	Dec. 8	6	6	

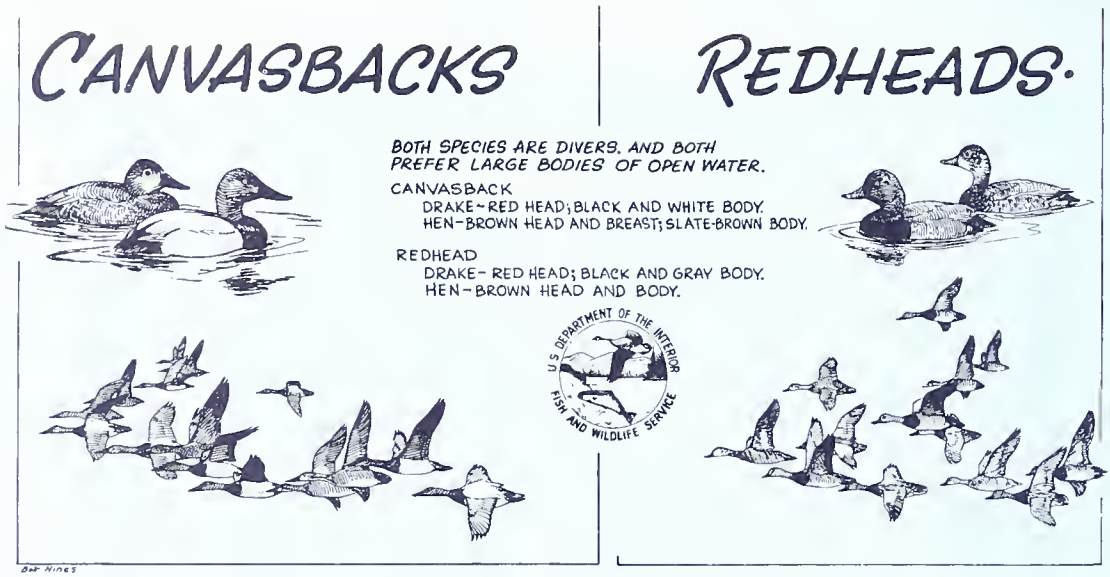
*Canvasbacks and Redheads - Closed. Daily bag and possession limit one (1) wood duck and one (1) hooded merganser. In excess of the above limits, 2 additional scaup ducks are allowed in the daily limit and 4 additional scaup ducks in the possession limit.

**NOTE: Unlawful to hunt for any wild bird or animal, including migratory game, except deer with bow and arrow, prior to 12 Noon, EST, October 20, 1962. Unlawful to hunt for any wild bird or animal, including migratory game, prior to 8 A.M., EST, on October 27, 1962.

NO OPEN SEASON - CANVASBACK AND REDHEAD DUCKS, SNOW GEESE AND SWANS. NO SUNDAY HUNTING.

MIGRATORY BIRD HUNTING METHODS - Permitted: Bow and arrow, or shotgun not larger than 10-gauge, of not more than 3-shell capacity, which must be plugged to 3 shots so that plug cannot be removed without disassembling the gun; dog; blind; boat propelled by hand; floating device other than sinkbox; artificial decoys. Injured or dead waterfowl may be picked up by means of a motorboat, sailboat or other craft. Shooting is permitted from a boat or other craft having a motor attached if such craft is fastened within or tied immediately alongside of any type of stationary hunting blind. Prohibited: Electrical calling devices or recordings; rifles; handguns; live decoys; automobile; aircraft; sinkbox (battery); power boat, sailboat or any device towed by power boat or sailboat; salt or bait placed to lure, attract or entice birds to, on, or over the area where hunters are attempting to take them; use of cattle, horses, or mules and motor-driven land, water or air conveyance or sailboat to concentrate, drive, rally or stir up waterfowl or coots.

FEDERAL STAMP FOR MIGRATORY BIRD HUNTING - It is unlawful for a person over the age of 16 years to take migratory waterfowl unless he owns and carries on his person a current Federal Migratory Bird-Hunting Stamp, validated by his signature written in ink across its face. Not valid after June 30 following date of issue. This stamp is not required to hunt Sora, Rails, Gallinules, Woodcock, Wilson's or Jacksnipe, and Doves. (8/21/62)



PENNSYLVANIA

SUNRISE-SUNSET TABLE

The following times of sunrise and sunset are based on the 77th Meridian which runs north and south through Eastern Adams County, Harrisburg Airport, Williamsport and Eastern Tioga County. Times shown are EASTERN STANDARD TIME.

Hunters in localities east or west of the 77th Meridian should note that there is a considerable variation in sunrise-sunset times from those shown before (as much as 8 minutes earlier in Philadelphia and 12 minutes later in Pittsburgh). Check your local weather station for correct information.

	SEPT.		OCT.		NOV.		DEC.	
Date	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.
1	5:34	6:40	6:03	5:50	6:36	5:05	7:10	4:42
2	5:35	6:38	6:04	5:49	6:38	5:04	7:11	4:42
3	5:36	6:36	6:05	5:47	6:39	5:03	7:12	4:42
4	5:37	6:35	6:06	5:45	6:40	5:02	7:13	4:42
5	5:38	6:33	6:07	5:44	6:41	5:00	7:14	4:42
6	5:39	6:32	6:08	5:42	6:42	4:59	7:15	4:41
7	5:40	6:30	6:09	5:41	6:43	4:58	7:16	4:41
8	5:41	6.28	6:10	5:39	6:45	4:57	7:17	4:41
9	5:42	6:27	6:11	5:37	6:46	4:56	7:18	4:41
10	5:43	6:25	6:12	5:36	6:47	4:55	7:19	4:41
11	5:44	6:23	6:13	5:34	6:48	4:54	7:20	4:42
12	5:45	6:22	6:15	5:33	6:49	4:53	7:20	4:42
13	5:46	6:20	6:16	5:31	6:50	4:53	7:21	4:42
14	5:47	6:18	6:17	5:30	6:52	4:52	7:22	4:42
15	5:48	6:17	6:18	5:28	6:53	4:51	7:23	4:42
16	5:49	6:15	6:19	5:27	6:54	4:50	7:23	4:43
17	5:50	6:13	6:20	5:25	6:55	4:49	7:24	4:43
18	5:51	6:12	6:21	5:24	6:56	4:49	7:25	4:43
19	5:52	6:10	6:22	5:22	6:57	4:48	7:25	4:44
20	5:53	6:08	6:23	5:21	6:58	4:47	7:26	4:44
21	5:54	6:07	6:24	5:19	7:00	4:47	7:26	4:45
22	5:55	6:05	6:25	5:18	7:01	4:46	7:27	4:45
23	5:55	6:03	6:26	5:17	7:02	4:45	7:27	4:46
24	5:56	6:02	6:27	5:15	7:03	4:45	7:28	4:46
25	5:57	6:00	6:29	5:14	7:04	4:44	7:28	4:47
26	5:58	5:58	6:30	5:13	7:05	4:44	7:29	4:47
27	5:59	5:57	6:31	5:11	7:06	4:44	7:29	4:48
28	6:00	5:55	6:32	5:10	7:07	4:43	7:29	4:49
29	6:01	5:54	6:33	5:09	7:08	4:43	7:29	4:50
30	6:02	5:52	6:34	5:07	7:09	4:43	7:30	4:50
31			6:35	5:06			7:30	4:51

Interior Announces 1963-64 Federal "Duck Stamp" Design Contest

"Ducks for Recreation" will be the theme for the 1963-64 Federal "duck stamp" design contest, the Department of Interior announced recently. This theme will give recognition to the esthetic value of ducks and geese, and the great interest they hold for all those who love the out-of-doors—bird watchers, hikers, campers, photographers, and fishermen—as well as hunters.

A drawing by any North American wildlife artist of any species of North American waterfowl, except mallards, redheads, pintails, and Canada geese, may be entered in the annual contest. These four species are excepted because all have appeared at least twice on recent duck stamps.

The agreement covering reproduction rights and a free copy of the leaflet, "Rules for the Annual Duck Stamp Design Contest," are available by writing to the Office of Information of the Fish and Wildlife Service, United States Department of Interior, Washington 25, D. C. Deadline is November 1, 1962, at midnight.

The winning design for the 1962-63 duck stamp was submitted by Edward A. Morris, of Minneapolis, Minn. It was selected from among 124 drawings submitted by artists in the United States and Canada.

The new stamp designed by Mr. Morris went on sale at post offices throughout the nation July 1 and will be valid through June 30, 1963. Every person who has attained the age of 16 and who hunts migratory waterfowl is required to possess one. Each stamp costs $3.



Photo by Fish and Wildlife Service

1962 DUCK STAMP DESIGN featuring pintails was drawn by Edward A. Morris of Minneapolis, Minn. The $3 stamp is required in addition to the hunting license for hunting waterfowl in Pennsylvania.

All revenue from the sale of Migratory Waterfowl Hunting Stamps, other than funds needed to reimburse the Post Office Department for the cost of printing and distribution, is used in selecting and acquiring migratory bird areas under provisions of the Migratory Bird Conservation Act. Normally more than two million stamps are sold annually.

OWAA Selects Erie as the Convention Site

The Outdoor Writers Association of America has selected the City of Erie as its 1963 convention site to be held in June.

At this year's meeting June 9-15 in Sarasota, Fla., Willard T. Johns and Bill Walsh representing the Pennsylvania Outdoor Writers Association invited the OWAA to hold their next convention in Pennsylvania. The bid was accepted by the Board of Directors and it is expected that some 500 writers and their families will be visiting Erie next June.



PGC Photo by Steve Kish

PENNSYLVANIA FORESTRY ASSOCIATION field trip on the Wyoming Forest in Sullivan County is being addressed here by Game Commission Biologist Stephen A. Liscinsky. The field trip was part of the two-day annual meeting of the PFA held this year at Eagles Mere in July.

Leading Johnstown Sportsman Killed in Air Crash

The president of the Menoher Heights Sportsman's Club, Cloyd G. Berkebile, of Johnstown, was killed in the crash of his private helicopter near Franklin, Pa., on Monday, July 7.

Mr. Berkebile, 40, had been president of the Menoher Heights Club since 1958. He was an ardent sportsman, and had recently returned from a spring bear hunting trip to Canada, one of many such trips.

At their regular meeting on August 7, the Menoher Heights Club, in respect to the memory of their late president, dispensed with all business and a fellow member of the club, the Reverend William Sheldon Blair, conducted a memorial service.

In conjunction with the service the club adopted the Memorial Resolution and a second resolution granting scholarships to Junior Conservation Camp, in memory of their father, to Mr. Berkebile's two young sons, when they reach sufficient age.

National Basset Field Trial and Dog Show Planned for Lebanon

The Basset Hound Club of America, Inc., will hold its annual National Field Trial and National Specialty Dog Show at the Lebanon Beagle Grounds near Lebanon on October 12, 13, 14.

The BHCA, in its 27th year, holds several field trials, but only one National which is a three-day event. On Friday, October 12, the program will begin with The Derby Dogs followed by the running of the Field Trial Champions. All Age Bitches on Saturday and All Age Dogs on Sunday followed by the running of the Best of Winners, time permitting.

The Friday night dog show will be held at Mt. Zion Fire House Hall at 7 p.m. The annual banquet and meeting is slated for Saturday evening in the same building.

All events are open to the public and no charges are made unless you are entering a registered basset hound.

For further information contact Show Chairman Mrs. Everett Ferge, 649 Vosburg Road, Webster 4, N. Y.

New Bimonthly Magazine Coming

The National Wildlife Federation is preparing a new 48-page magazine, "National Wildlife," which will be distributed on a membership basis only. Each issue will have at least 16 pages of colorful illustrations, and editorials will incorporate reports from Washington on national conservation. Its first issue, due in December, will be edited by John Strohm, contributing editor to "Reader's Digest." The federation welcomes inquiries from individuals who wish to join its new associate membership in what is described as the nation's largest private conservation organization. Members will receive "National Wildlife" as well as special discounts on natural history and travel books, and an annual free art print. Address inquiries to: Magazine, National Wildlife Federation, 1412 16th Street, N.W., Washington 6, D. C.

NEW BOX NUMBER

The Harrisburg office of the Pennsylvania Game Commission has a new post office box number. All mail should now be directed to the Pennsylvania Game Commission, P. O. Box 1567, Harrisburg, Pa.

Answers Unscrambled
(From Pages 32-33)

1.—(b) Beaver
2.—(d) Turkey
3.—(k) Rabbit
4.—(a) Squirrel
5.—(f) Deer (rubbing)
6.—(b) Beaver
7.—(h) Flicker
8.—(j) Black bear (claw marks on beech tree)
9.—(e) Muskrat
10.—(g) Woodcock
11.—(i) Porcupine
12.—(e) Muskrat
13.—(c) Mink



GEORGE W. KOEHLER

Game Commission Exhibitor Retires With Over 26 Years of Service

George W. Koehler of Williamsport, the man responsible for Game Commission exhibits throughout Pennsylvania, retired on August 24 with 26 years of service.

Since 1950, Koehler has directed the Game Commission's exhibit program at the Annual State Farm Show, county and city fairs, and many other special events in Pennsylvania. Koehler possesses the unique combination of being an expert artist, carpenter, and wildlife exhibit technician. These traits were incorporated in exhibits to sell wildlife conservation and the program of the Pennsylvania Game Commission.

Born in Weatherly, Carbon County, Koehler, 60, began his Game Commission service in May, 1929, as a Game Refuge Keeper and in 1939 he was appointed a Game Protector-Land Manager until his military service in 1942. Koehler became the Commission's Wildlife Exhibitor in March, 1950.

In spite of his 26 years of service, in his retirement letter Koehler said that he still has a lot to learn about wildlife and people.

George resides with his wife Mildred on Proctor Star Route, Williamsport. The Koehlers have one son, William, 34, of Montoursville.

ANTLERLESS DEER LICENSES GO ON SALE OCTOBER 8

Pennsylvania residents interested in hunting antlerless deer on December 17, the one-day season set for 1962, can purchase the $1.15 license beginning October 8. The licenses are valid only in the county where issued and they are available, by law, ONLY at County Treasurers' offices. The application forms which must be filled out before securing a license are available from any license issuing agent or from Game Commission offices.

At a meeting of representatives of the County Treasurers Association, the Department of Revenue, and the Game Commission in Harrisburg on August 2, the group decided to use the same system of issuing antlerless deer licenses as in previous years.

Under the law, no more than six (6) antlerless deer licenses shall be sold to any one person. Also by law, no application can be accepted nor an antlerless deer license issued to a nonresident of Pennsylvania in advance of 30 days prior to the opening date of the antlerless deer season. Accordingly nonresident license cannot be sold prior to November 19, 1962. With the passage of Act Number 195 on June 14, 1961, however, the Game Law was amended to permit the sale of antlerless deer licenses to nonresidents during the open season. Previously, no sales could be made once the season opened, even if there were licenses still available.

The following summarizes how county treasurers will accept applications for the 1962 antlerless deer licenses. Dates enclosed in brackets indicate when county treasurers will begin to accept applications by mail only. Those persons applying by mail must enclose 8 cents for return postage.

Accepted Both by Mail And at the Counter

Adams (August 17)
Allegheny (October 8)
Beaver (October 8)
Bedford (September 20)
Butler (October 6)
Cameron (September 4)
Carbon (August 15)
Chester (October 8)
Clarion (September 1)
Columbia (October 3)
Dauphin (September 10)
Elk (September 10)
Erie (October 1)
Fayette (October 5)
Forest (September 1)
Fulton (September 1)
Greene (October 8)
Huntingdon (September 10)
Jefferson (September 1)
Juniata (October 8)
Lackawanna (October 8)
Lancaster (September 1)
Lawrence (October 8)
Lebanon (October 6)
Lycoming (September 1)
Mercer (October 8)
Mifflin (August 16)
Montgomery (October 1)
Montour (August 13)
Northumberland (October 1)
Perry (September 5)
Potter (October 1)
Schuylkill (October 8)
Sullivan (October 8)
Susquehanna (October 1)
Tioga (October 8)
Union (September 15)
Warren (September 24)
Washington (October 1)
Wayne (October 1)
Wyoming (September 17)
York (September 15)

Accepted by Mail Only

Berks (October 5)
Blair (October 8)
Bradford (September 4)
Bucks (September 4)
Centre (September 10)
Clearfield (October 5)*
Clinton (September 10)
Crawford (October 8)
Cumberland (September 17)
Franklin (September 17)

Indiana (October 1)
Lehigh (October 1)*
Luzerne (September 4)
McKean (September 1)
Monroe (August 13)
Northampton (September 4)
Pike (September 4)
Somerset (October 1)
Venango (October 8)

(* One application per envelope)

Accepted at the Counter Only

Armstrong
Cambria
Delaware
Snyder

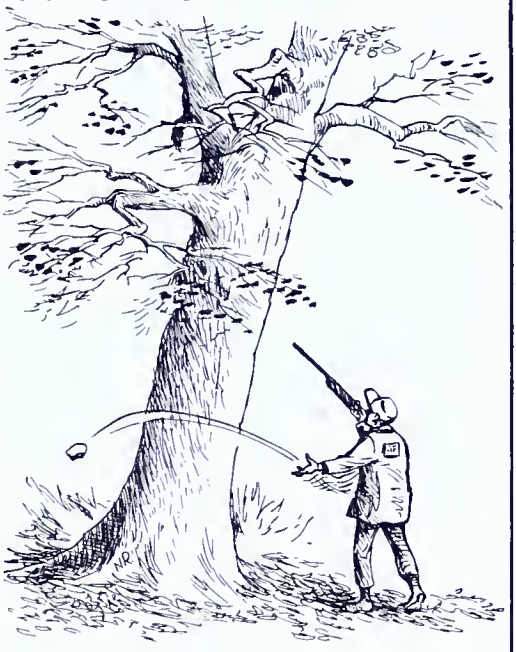
No Report

Westmoreland

GAME NEWS Is Ideal Gift

Pennsylvania GAME NEWS magazine makes a perfect birthday or Christmas gift for practically anyone. Christmas gift subscriptions so marked will include a Christmas card acknowledgment sent to the recipient free of charge. Act early this year; send $1 for a one-year subscription to GAME NEWS, P. O. Box 1567, Harrisburg, Pa.

TIPS FOR HUNTERS



If that treed squirrel becomes a problem, try throwing your cap, a branch or a rock to the ground on the opposite side of the tree. For the lone hunter, this often proves the difference between leaving him there or having fried squirrel for dinner.—*Rev. George L. Harting*

BEAR KILL ON ROUTE 611, Coolbaugh Township in Monroe County. District Game Protector John Spencer examines the 125-pound bear on August 2, the day it was killed.

PGC Photo by Steve Kish



Conservation Classes Given At Penn State

Pennsylvania State University's Conservation Education Laboratory for Teachers was held in two sessions this summer—July 2-20 and July 23-August 10.

The laboratory, opened to both men and women, offered a three-week outdoor educational experience for elementary and secondary school teachers and for school administrators.

Field trips, lectures, demonstrations and group discussions provided practical information about natural resource management.

The areas of emphasis included soil, water, forests, wildlife, and mineral conservation.

The program provided experiences in resource use, developed leadership for school and community conservation education projects and suggested methods for teaching conservation.

Participating organizations included the Pennsylvania Game and Fish Commissions, the Pennsylvania Department of Forests and Waters, the Topographic and Geologic Survey of the Pennsylvania Department of Internal Affairs, the Sanitary Water Board of the Pennsylvania Department of Health, the Brandywine Valley Asssociation, the Pennsylvania Forest Industries Committee, the U. S. Soil Conservation Service, the U. S. Forest Service and the College of Agriculture of the Pennsylvania State University.

Seeds Given With License In Tyrone

Purchasers of 1962 hunting licenses in the Tyrone area are being presented with a packet of Virginia pine seeds and planting instructions, made available by the West Virginia Pulp and Paper Company, and the Tyrone Sportsmen's Association.

Approximately 2,000 packets of seed, packaged in envelopes by the sportsmen, are available at Burley Brothers, Fink Brothers, and Miller Brothers, stores in Tyrone. Hunting licenses bought at any of these business firms include the "bonus" offer of free seeds.

The seed envelope is printed with instruction for planting and the hunters are urged to cooperate in this conservation program. All the sportsman has to do while hunting in the woods is scratch a bare spot in the ground, drop two or three seeds and then press them in the ground with his boot.

The success of this project depends upon the cooperation of the hunters. Naturally some of the seeds will not grow but Virginia pine is a hardy species and it is hoped that the trees that grow will provide good game areas and sturdy forests for future generations of hunters. Both the Tyrone Sportsmen's Association and the West Virginia Pulp and Paper Company are active members of the Pennsylvania Tree Farm Organization dedicated to "keeping Pennsylvania Green."

289 CROWS BAGGED IN SOMERSET HUNT

Forty-eight hunters competed in the third annual crow hunting contest conducted in Somerset County by District Game Protector James Burns, Jr., and his deputies, Saturday, June 23.

Richard Pile, Friedens, and Ron Igou, Sipesville, won the contest by killing 44 crows and shooting 150 shells in doing so. The two-man team received the first place prize of a "Call of the Wild" transistor game and bird caller donated by the manufacturer, Wightman Electronics, Inc.

A total of 289 crows were turned in at the reporting station at Reels Corner. An elaborate collection of prizes, donated by the merchants of Somerset County was distributed among the winning hunters.



Photo by Newman Schmidt

HORNADAY MEDAL for distinguished service to conservation by an individual associated with Boy Scouts of America was presented to Scoutmaster Ralph W. Abele of Troop 230, Mt. Lebanon, by John M. Phillips, Jr. The ceremony took place in the Allegheny National Forest in early August. This marks the first time in the 50-year history of the Allegheny Council, BSA, that the famous medal has been presented. The medal is given by the New York Zoological Society.

Bounty Payments Over $116,000

Bounty payments on foxes and great horned owls totalled $116,458 for the 13-month fiscal year June 1, 1961-June 20, 1962, according to a tabulation released by the Pennsylvania Game Commission. The Commission's Bounty Section in Harrisburg reported payment of 7,826 claims on 8,951 gray foxes, 18,406 red foxes, and 1,406 great horned owls. The Commission paid $4 for each red or gray fox and $5 for each great horned owl killed in the wild and properly probated for bounty during the year, except from the opening day of the small game season last fall through November and December.

The figures represented a considerable increase over the prior fiscal year, with only a small number of bounty claims attributable to the extra month in the 1961-62 period. This year's claims were up 1,431 over last year, with 2,904 more red foxes, 1,365 more gray foxes, and 184 more great horned owls being probated. Glenn L. Bowers, the Commission's Deputy Executive Director, pointed out that this indicates the bounty system is not producing the intended results—control of predator populations. During the past ten years, the numbers of foxes and great horned owls being probated annually show very little change from year to year, and no decreasing trend. Bowers said if the bounty system was producing the desired results there would be a reduction.

Crawford County led the state in payments this year with a total of $4,948. Other leading counties in bounty payments were York ($3,974), Bradford ($3,946), Elk ($3,823), and Somerset ($3,764). Crawford County also topped the state in bounty claims on red foxes (926) and was second in claims on great horned owls. Lancaster County trappers and hunters probated the highest number of gray foxes (420) while Bradford County topped the state in claims on great horned owls (98).

YOU USED TO OWN A 'FOOTBALL FIELD'

It won't happen again, but for 11 seconds on May 16 every living person in the United States was the proud owner of one full acre of land. (An acre is 43,560 square feet, slightly smaller than a football field.) The National Forest Service says there are 186,160,311 acres in the forest system. On the above date, the "population clock in the Department of Commerce ticked off the 186,160,311th person," thereby assuring each of us an acre-share in America. But people being what they are and land being what it is, the "boon" was short-lived. It lasted just 11 seconds—the space of four short breaths. If there is a moral to be found, perhaps it lies in the remarks made by the Forest Service that as population increases, forest management becomes even more important if each citizen is to receive maximum benefit from our dwindling acreage.

Tried and Tested

SMALL GAME RECIPES

By J. Almus Russell

GOOD small game eating depends upon several rules which the hunter must follow carefully.

First of all, the health of the game animal is highly important. This is usually indicated by clean, sleek fur coats on animals that are fleet of foot rather than sluggish moving.

Next, all small game should be bled after killing, as soon as possible. This procedure makes not only for better appearance but also for superior keeping qualities. In all cases, the jugular veins should be severed so that the blood may drain out quickly, and the animal hung so that the head and shoulders are below the body.

Small game should be skinned and dressed as soon as possible, folding back the skin without letting the hair touch the meat. Body cavities should be wiped clean but not washed out until the meat can be refrigerated. The viscera should be loosened and removed whole and unbroken without severing any of the glands.

The shot area, as well as any feathers and hair imbedded in it, must be removed with a sharp pointed knife, clotted blood squeezed out. Remove the fat lying just under the skin as well as the glands concealed beneath this fat. In this way, the hunter will avoid tainting the meat with a strong gamy flavor.

Four sets of glands or "kernels" are found on the legs. In addition, glands of this type are also located in the small of the back. All should be removed. Squirrels, possums, coons, beaver, muskrats, and woodchucks have such glands. Rabbits and porcupines do not.

Lastly, all game should be hung at least forty-eight hours before cooking —if possible, in an airy space just above freezing.

RABBIT

Remove the head. Skin and draw the animal. Soak the carcass for an hour in cold, salted water to remove the wild taste. Then rinse it in cold, fresh water and wipe it dry.

Fried Rabbit With Onion Sauce

2 young rabbits
2 beaten eggs
salt water
1 cup cracker crumbs
bacon fat
salt and pepper

Joint the rabbits. Soak for an hour in salt and water. Wipe pieces dry. Dip them in the beaten egg mixture, then in the cracker crumbs, and fry in the bacon fat. Serve with—



Eastern Cottontail Rabbit

Onion Sauce

1 cup hot medium white sauce
1 cup sliced cooked onion
1/3 cup cream

Cook onion in a little water until soft. Add with cream to the white sauce and reheat.

Hasenpfeffer
(Sour Rabbit)

1 large rabbit
vinegar
water
1 sliced onion
⅛ pound butter
3 cloves
1 bay leaf
1 cup sour cream
salt
pepper

Skin, clean, and disjoint the rabbit, washing the pieces thoroughly. Place the pieces in a crock with vinegar and water in equal parts to cover. Add the sliced onion, cloves, bay leaf, with salt and pepper to taste. Soak the meat for two days. Then wipe the pieces dry before browning them in hot butter. Slowly add some of the pickle used in soaking the meat to the depth of a quarter of an inch, cover tightly, and simmer until done (about 30 minutes). Just before serving, stir the sour cream into the sauce.

Rabbit Pie
With Hot Mulled Cider Applesauce

1 large dressed rabbit
2½ cups stock
1 tablespoon minced parsley
1 tablespoon salt
⅛ teaspoon black pepper
¼ teaspoon paprika
½ cup canned mushrooms
1 rule plain pastry

Prepare rabbit as for fricasseed chicken but cook it longer. Place pieces in a kettle, add seasonings, cover with boiling water, and cover kettle tightly. Simmer for three hours or until tender, keeping at least three cups of stock in the kettle.

Grease a baking dish. Distribute the pieces of rabbit evenly. Again, season to taste with salt, pepper, and paprika. Then add the mushrooms and parsley. Pour the stock over it but do not have the liquid come up far enough to touch the pastry crust spread over the top of the pie. Else the crust will soak.

Bake the pie in a hot oven (425 deg. Fahr.) for 20 minutes, then in a moderate oven (350 deg. Fahr.) for an additional 30 minutes. Heat the rest of the gravy stock to serve with the pie. Serve with—

Hot Mulled Cider Applesauce

4 cups sweet apples, cored, pared, and quartered
2 cups mulled cider

Mix apples and cider. Simmer until sauce is thick.

SQUIRREL

Remove the scent glands from the small of the back as well as from under the forelegs and thighs. Leave the sparse fat, adding more to give the meat the necessary flavor. Follow in general the same procedure as for cooking chicken.



Gray Squirrel

Stewed Squirrel
With Sour Cream Gravy

2 squirrels
1 cup minced onions
½ cup quartered mushrooms
4 strips bacon
½ cup flour
1 tablespoon minced parsley
2 tablespoons butter
⅛ teaspoon pepper
¼ teaspoon salt
3½ cups broth (made with beef bouillon cubes)
sour cream

Clean, skin, and disjoint the squirrels. Heat the butter in an iron stewing-pan. Add the minced onions and brown them. Then add the pieces of squirrel and the quartered mushrooms. When these are browned slightly, add the flour and brown. Next, add the minced parsley and the bacon slices and cook. Lastly, pour in the broth, season to taste, and stew slowly for 45 minutes.

Sour Cream Gravy

Combine the flour, sour cream, and water. Stir it into the squirrel broth. Serve very hot from the stewing-pan.

Squirrel Pot Pie
With Rolled Buttermilk Dumplings

2-3 pounds dressed squirrels
2½ cups water
1½ teaspoons salt
2 tablespoons butter
½ teaspoon black pepper
Rolled Dumplings

Wash the dressed squirrels inside and out with warm water. Cut them into serving pieces. Place in kettle, add water and salt, bring to boiling point, then reduce heat to a simmer. Cover tightly and simmer 2½-3 hours until meat is tender and falls from the bones. Add the pepper and butter. Then bring liquid to a boil. Lay the rolled dumplings over the top of the squirrel pieces, cover tightly, and gently boil for 12-15

minutes. *Do not lift the cover during the cooking.* (A glass cover may be used if desired.)

Remove the squirrel to a hot platter and arrange dumplings around the edge. Pour the pan gravy over both squirrel and dumplings. The dumplings absorb enough liquid so that the gravy is automatically thickened without adding any flour.

Rolled Buttermilk Dumplings

1 cup flour
1½ teaspoons baking powder
¼ teaspoon baking soda
¼ teaspoon salt
½ cup buttermilk

Sift the flour, measure it, sift it three times more with the baking powder, sifting it the last time into a bowl. Add the buttermilk and mix lightly with a fork. Turn onto a floured board. Knead dough lightly 4 or 5 times. Roll out to ¼-inch thickness and cut it into rectangles 1 inch by 3 inches with a floured knife. Drop rectangles of dough on top of the boiling stew and proceed as previously directed.

COON

Skin and dress the coon. Remove the glands. Remove all fat inside and out as well as from under all four legs. (Unless the fat and glands are taken out, the meat will have a tainted taste.) Wash in cold water.

The flesh is very dark and is improved by short parboiling before using in the recipes that follow.

Coon Soup

2 pounds coon meat (bony pieces)
6 cups cold water
½ cup celery, diced
1 small carrot, diced
1 ounce butter
1 small onion, sliced
2 teaspoons salt
⅛ teaspoon pepper
¼ cup uncooked rice
1 teaspoon dried herbs
2 tablespoons chopped parsley
1 pinch rosemary

Place meat, celery, carrot, and onion in soup kettle. Heat to boiling point, reduce heat, cover tightly, and simmer for two hours. Add salt and pepper and then simmer for 30 minutes more. Strain. To the boiling broth add the uncooked rice slowly. Let it cook for 20 minutes. Meanwhile remove the meat from the bones, chop, and add to the soup. Finally add rosemary, dried herbs, and butter. Serve at once.

Raccoon



Roast Coon With Apple Stuffing

Cut off the tail and feet at the joints. Skin, dress, and remove the glands. Soak in sufficient salted water to cover for 18 hours, changing the salted water once. Fill with *apple stuffing* and sew up the opening. Place in roaster with one cup of water. Sprinkle lightly with salt and cover with 4 slices of salt pork. Roast at 350 deg. Fahr. for 1½-2 hours or until meat is tender. When the coon browns on top, turn it, basting frequently to keep it from drying up.

Apple Stuffing

1 minced onion
6 tablespoons butter
1 cup chopped celery
3 cups fine bread-crumbs
4 cups diced apples
½ cup hot water
2 tablespoons chopped parsley
1 teaspoon poultry seasoning
1 tablespoon celery salt
¼ teaspoon black pepper
¼ cup seeded raisins

Fry onion in butter until brown. Add to the remaining ingredients. Mix well with ½ cup hot water.

POSSUM

Stick the possum and hang over night to bleed. Hold by tail in tub of hot water until the hair will strip off easily. Remove from water, lay body on a board, and pull out hair with fingers. Draw, clean; and if possible, freeze for a couple of days. Then the animal is ready to cook.

The meat is light-colored and tender. No strong flavor or odor is connected with the fat but the glands must be removed.

Possum and Sweet Potatoes

1 possum
sage tea
salt pork strips
salt
black pepper
red pepper
sweet potatoes

Boil the skinned, dressed possum in strong sage tea until partly done. Season well inside and out with salt, black pepper, and red pepper. Place in a roaster and cover top with pork strips. Add enough hot water to prevent burning. Slice raw sweet potatoes and fill around meat in the roaster. Baste often. Cook until brown and done.

MUSKRAT

The muskrat, noted for its clean food habits, takes its name from its glands which have a musky scent. All of these must be removed when the animal is dressed.

Muskrat is served in gourmet restaurants under the name of *marsh rabbit.*

Stewed Marsh Rabbit (Muskrat)

4 marsh rabbits
¼ pound salt pork
2 cups sliced onions
1 cup sliced carrots
2 tablespoons flour
salt, pepper, paprika, red pepper

Clean and skin the marsh rabbits, taking care not to rupture the musk sacs. Soak the hind legs and saddles in salt water for 24 hours. Season the meat and vegetables well; then place them in an iron pot with a tight lid, and simmer contents until tender. Use just enough water to keep the mixture from burning. Just before serving, thicken the gravy with flour.

Muskrat Fricassee

1½-2 pounds dressed muskrat
1 tablespoon salt
4 cups water
¼ cup flour
2 teaspoons salt
1 cup water
¼ teaspoon paprika
¼ teaspoon black pepper
dash of red pepper
¼ cup bacon fat
1 cup sliced onions

Place muskrat in a brine made in the proportions of 1 tablespoon salt to 4 cups water. Put in a refrigerator and soak over night. Drain meat and rinse thoroughly in fresh water. Drain again. Cut into serving pieces. Place flour and seasonings in a paper bag. Drop a few pieces of the muskrat at a time in the bag, shaking it to coat well. Heat bacon fat in an iron skillet, browning pieces slowly on all sides over a medium heat. Sprinkle wth paprika. Push meat to one side and add onion, cooking until onion is yellow. Add ½ cup of water, reduce heat, cover, and simmer gently for 20-30 minutes until tender. Add remaining water as needed. Serve on *hot* platter with the gravy poured over the top of the meat.

BEAVER

Beaver meat is dark, fine-grained, tender, and soft. Like coon meat, it is improved by a short parboiling before using. Beaver fat has a strong flavor and odor. It should be completely stripped off before cooking. The scent glands should be removed.

Beaver



Beaver Tail

Broil the tail over the coals for 10 minutes or until the rough, scaly hide blisters and scales off in sheets, leaving the meat clean, white, and solid.

Place tail in a roasting pan, season it with salt, pepper, and minced onions. Lard the top with slices of bacon. Roast in a medium over (350 deg. Fahr.) until tender.

Roast Beaver

1 young beaver
baking soda
salt
sliced onions
salt pork strips

Remove all fat from surface of the beaver. Cover the meat with a solution of soda and water in the proportion of 1 teaspoon soda and 1 teaspoon black pepper to 1 quart of water. Parboil gently for 10 minutes. Drain. Place meat in a roasting pan, sprinkle with seasonings inside and out (salt and pepper), cover with sliced onions and strips of bacon or salt pork. Roast in a moderate oven (350 deg. Fahr.) until the meat almost falls from the bones.

WOODCHUCK

The woodchuck (sometimes known as the *ground hog* or *whistle-pig*) has dark, tender meat with a mild flavor. The glands must be removed. Cook the flesh like rabbit or squirrel. It is improved by a short parboiling.

Woodchuck Meat Loaf

1 pound ground woodchuck meat
1 pound ground pork
1 egg
½ cup dried breadcrumbs
1 cup milk
1½ teaspoons salt
⅛ teaspoon black pepper
1 tablespoon chopped onion

Mix the meats completely. Add egg, milk, and breadcrumbs. Mix well with the meat. Place all in a greased pan and bake for an hour in a medium oven (350 deg. Fahr.)

Smothered Woodchuck

1 woodchuck
2 cups sliced onions
½ cup sliced celery
flour
vinegar and water
salt, black pepper, red pepper
4 cloves

Cut the dressed woodchuck into serving pieces. Soak the meat over night in equal parts of water and vinegar, one sliced onion, and ½ teaspoon salt. In the morning, drain, wash, and wipe the pieces of meat. Parboil them for 20 minutes, drain, and cover with fresh boiling water. Add the second onion, sliced, the sliced celery, cloves, dash of red pepper, with salt and black pepper to taste. Cook until tender.

The flavor is delicious—a cross between duck and squirrel, yet more delicate than either one.



Woodchuck

PORCUPINE

Kill, singe off quills in campfire, skin, and dress. Thousands of hunters have eaten the enormous liver and prize it as one of the greatest woodland delicacies.

Broiled Porcupine Liver

Soak the whole liver in salt water for 15 minutes. Remove from water, drain, wipe dry, and cut into slices ¾ inches thick. Drop slices into boiling water for one minute. Drain, cool, remove thin membrane from edge of each slice, and also all of the gristle. Wrap each slice with a slice of bacon and broil for 5 minutes.

Roast Porcupine

Singe off the quills in the campfire. Skin and dress the carcass. Rub the flesh inside and out with plenty of salt, bacon fat, and black pepper. Roast over the coals. The cooked flesh tastes like rich pot roast.

OTHER SMALL GAME RECIPES

Hunter's Brunswick Stew

4 pounds dressed squirrels or rabbits
1 quart can tomatoes
1 pint can lima beans
1 pint can green corn
6 medium-sized potatoes, parboiled and sliced
1 small onion, minced
½ pound salt pork
½ teaspoon black pepper
¼ teaspoon red pepper
1 tablespoon salt
2 tablespoons white sugar
½ pound butter

Soak the dressed game an hour in cold water. Drain and wipe dry. Then add 1 tablespoon salt to 4 quarts of water and boil 5 minutes. Then add the minced onion, beans, corn, diced pork, sliced potatoes, and game. Cover pan with a tight lid and stew contents very slowly for 2½-3 hours, stirring frequently to avoid burning the mixture. Add the tomatoes and sugar and stew an hour longer. Finally add the butter, cut into bits the size of a walnut and rolled in flour. Simmer 10 minutes and serve at once.

Game Fritters

Thin slices of cold roasted game
batter
bacon or pork fat
salt and pepper

Dip slices of meat into the batter and fry them in the fat. When done, sprinkle them with salt and pepper, and serve very hot.

Game Soup (Century-Old Pennsylvania Recipe)

"In the season for game, it is easy to have good game soup at very little expense, and very nice. Take the meat off the bones of any cold game left, pound it in a mortar and break up the bones, and pour on them a quart of any good broth and boil it for an hour and a half; boil and mash six turnips and mix with the pounded meat; then pass them through a sieve; strain the broth and stir in the mixture of meat and turnips, which has been strained through a sieve. Keep the soup near the fire but do not let it boil. When ready to dish the soup for table, beat the yolks of five eggs very lightly and mix with them half a pint of good cream; set the soup on to boil; and as it boils, stir in the beaten eggs and cream; but be careful that it does not boil after they are stirred in, as the egg will curdle. Serve hot."

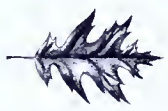
Porcupine



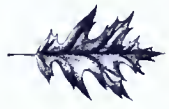


By Tom Forbes

AT 6 a.m. (EST) on October 1, the 1962 Pennsylvania ANY DEER ARCHERY SEASON will begin. Hunting before and after the daily legal hours is one of the greatest offenses of the bow hunting fraternity. Bow hunters should use an accurate watch, not the sun, to avoid hunting before or after legal hours. In Central Pennsylvania, on the opening day, the sun rises three minutes after the season opens. However, in Philadelphia, the sun rises five minutes before the legal hour and in Pittsburgh the sun pops up 15 minutes after the season begins. The daily closing time is 5:30 p.m. (EST) but the sun does not set for another 20 minutes in Central Pennsylvania on the opening day. Therefore, archers, watch your watch, not the sun for the legal hours.



Each resident bow hunter must have purchased a regular hunting license which costs $3.15 and for the any deer season an archery license which costs $2.15. The combined license fee amounts to $5.30 for a resident of Pennsylvania. For Michigan residents to bow hunt for deer it costs them $13, Minnesota $10, Wisconsin $17, New York $11.75, West Virginia $8.



The gunning season for doves is also in full swing during the archers' deer season. The dove season opened on September 1 at 12:00 noon. Daily shooting hours on doves are from 12:00 noon to sunset (EST). Some sections of our state have a plentiful crop of doves. So, when you leave home, be sure to pack the shotgun along with the bow and try some afternoon dove hunting when the deer are bedded down. Be sure not to carry both the gun and bow at the same time. It is illegal to carry any firearm while bow hunting.



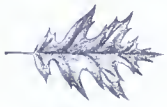
As you walk through the October woods consider yourself a rich man. Rich does not mean that you own thousands of shares of stock. Rich means that you have time to enjoy the natural wonderland that the good Lord created. Rich means that you have a roof over your head, enough to eat, and your health which is your most valuable asset. Without health all other things are valueless. When you owe no man money and do not spend what you have not earned then worry cannot intrude on the pleasures of your days afield with the bow.



Public hunting on private land is a privilege, not an inherent or vested right, and future hunting on private land depends on the hunter's respect for the landowner's rights. Sure, game belongs to all the people; not even the landowner owns the game on his property, but you hunt because he has granted permission and it is good public relations to stop at his home and thank him for the privilege of hunting on his property.



Too many bow hunters are guilty of vandalism, litterbugging, trespassing in safety zones, and violation of the game laws. The bow hunter cannot afford to let a minority in his group destroy the opportunities he now enjoys. Bow hunters must work together with the landowners and farmers to control the vandals and violators, encourage good sportsmanship by example, and insist on the highest standards of conduct in the field. You do yourself a disfavor when you do not report violations which come to your attention.



Good deer management requires that the deer herd must not exceed the carrying capacity of the range. Management is as simple as that yet there are areas in Pennsylvania where there are posters reading "No Doe Hunting Permitted." As I observe these posted areas I note that there is little or no food for deer in the territory. The undernourished deer taken from these areas frequently weigh less than one hundred pounds. Trophy deer are nonexistent and winter losses are frequently severe. In 1928 a thousand dead deer were tallied in four townships in a single Pennsylvania county.

The disastrous effect of over-protection of a deer herd was demonstrated on the Kaibab Plateau in northern Arizona. This isolated section had a unique herd of approximately 3,000 Rocky Mountain mule deer in an area of 753,000 acres of forest on the north side of the Colorado River and a total area of approximately 1,000,000 acres. To save these deer from extermination the area was set aside as a game reserve in 1906. The refuge was patrolled against hunters, livestock grazing privileges were reduced and a systematic campaign against predators was inaugurated. Under these optimum conditions the original herd by 1924 had increased to 30,000 deer by official estimates and it was apparent to the local foresters that the herd was headed for serious trouble. The food shortage was acute. In spite of the efforts of informed management officials and their recommendations that immediate steps be taken to reduce the herd by 50 per cent, these proposals were opposed immediately by sentimentalists and protectionists to whom hunting was repugnant. These well-intentioned people argued that nature should take her course and the Governor of Arizona refused to open the area to hunting under state law and threatened to call out the national guard to prevent Forest Service employes from carrying out the needed reduction in the herd.

Nature did take its course, ruthlessly. Thousands of deer died each year during the winter between 1925 and 1930. A herd that had been touted with local pride as "the biggest in the world" was reduced to a remnant of its former size. Only then did the State of Arizona adopt a commission form of wildlife management, relatively free from political influence. Under this leadership and working closely with the Forest Service the herd was saved from extinction through regulated hunting until the overbrowsed range could recover. Thanks to wise management the range and the herd are now in balance. Deer may be seen by tourists visiting the North Rim of the Grand Canyon and the herd produces trophy bucks during the hunting season.



Lewis E. Frank, Jr., hit the "jack pot" during the 1961 season by outwitting a buck during the archery deer season and brought down a 225-pound bear with a broadhead on November 27 when bears were legal game in the Commonwealth. This feat is exceptional and the only instance of its kind that has been reported to the Game Commission.

In the 1961 season Potter County led all counties in the state in the number of deer harvested both in the archers' any deer season and in the gun season. Lycoming led in the number of bears. Archers bagged 131 deer in Potter County during the archers' any deer season while Lycoming County was second with 105.



PGC Photo by Bob Parlaman

NEVER CARRY ARROW NOCKED in the bow like this archer. You are taking unnecessary chances when you walk or run with exposed broadheads in your possession. Every bow quiver should also have a deep pocket of metal to guard against sharp broadheads.

Accidents may be materially reduced among the bow hunters this season if every bowman will refrain from carrying an arrow nocked in the bow or loose in the hand. Every bow quiver should provide a deep pocket of metal or hard leather which completely covers the broadheads. There they should remain until they are withdrawn to shoot at game. You are taking unnecessary chances if you walk or run with exposed broadheads in your possession. Take these simple precautions and bow hunting accidents will be reduced at least 75 per cent. During past seasons bow hunters have been shot in mistake for game. Noise or movement are no excuse for loosing an arrow. Be certain that your target is the deer you have been seeking and by all means know where your hunting partner is at all times. Good luck and pleasant days afield.

THE BOWMAN'S CALENDAR

October 7—Rainbow Bowmen. Franklin. 28 Deer Silhouette (Broadheads).
October 7—Great Swamp Bowmen. Quakertown. 28 Deer.
October 14—Seven Mountains Archery Club. 28 Novelty. Milroy, Pa.
October 28—Presque Isle Field Archers. 28 Deer (Broadhead). Erie, Pa.
October 28—York-Adams. Abbottstown, Pa. American Round.



FIVE LIGHTWEIGHT SPECIAL PURPOSE 20-GAUGE DOUBLES. No. 1 (top)—L. C. Smith side by side double, No. 2—Ithaca side by side double, No. 3—Browning over and under, No. 4—Belgian over and under Zephyr, No. 5—Super La Francais over and under (French).

With the Approaching Small Game Season, Let's Look Closer at Shotguns . . .

Special Purpose Smoothbores

By Jim Varner

Photos by the Author

A LIFETIME of experiences with sportsmen in all areas of Pennsylvania, as well as the U. S. A., causes the writer to believe these shooters have definite ideas of their own as to which smoothbore serves each individual best. Some of the youngsters or beginners in their early shooting experiences are as changeable as a "Prima Donna." They shift from one make, one model weight, one gauge to another with a zeal that is difficult to comprehend. A few of the older gun handlers do the same frequently, but the majority of them have unchangeable definite standards as to which type arm and shot shell is best suited to consistently score the best results at the targets or in the field.



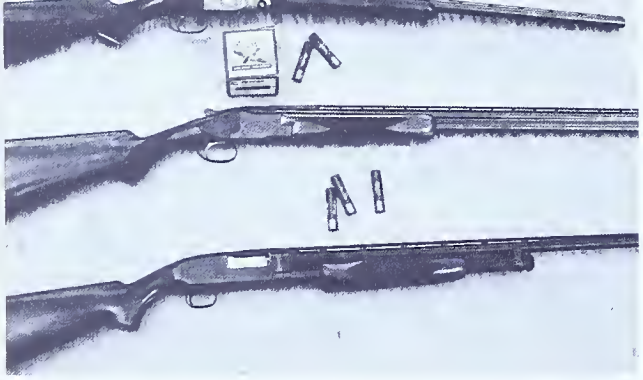
Recently conducted quiz programs before sportsmen's groups bear out our contention that too few possess a thorough understanding of the sometimes confusing articles on ballistic limitations of a smoothbored barrel. The gun which is throwing an ounce, more or less, of fine round pellets, weighing under a grain (apothecaries weight) each, in the case of No. 9 shot, to some 9 grains where BB's are used, is not well understood. Due to physical laws controlling such charges of spherical shaped pellets the interior propelling pressures have to be kept down to four to six tons per square inch in the gun's chamber (interior ballistics). Such pressures internally should produce from 1,200 to 1,300 feet per second velocity at the muzzle. Pressures and velocities beyond this result in numerous battered and deformed pellets, due to their abrupt start through the chamber's forcing cone and again at the choke. These pellets are made harder than pure lead by combining tin or antimony. Pure lead would deform even worse. So you see, our shotgun's pattern suffers where we have a lot of battered pellets flying off on a tangent. Unlike the rifle, using strong metal-jacketed bullets capable of almost unlimited pressures and velocities, if one cares to pay the price for eroded barrels, the shotgun is limited to not much over 1,300 F.S. muzzle velocity. It is strictly a short-range arm that has not increased its range efficiency to any great extent over its black-powder counterparts of a hundred years ago due to these physical factors mentioned. The flight of a charge of shot or rifle bullet after leaving the muzzle comes under the term, "exterior ballistics." You, as sportsmen and shooters, are concerned about exterior ballistics from now on as we continue our session on "Special Purpose Smoothbores."

Last month we discussed briefly the subject, Reflections of the Small Game Season Gunner. A follow-through on the subject is in order during our "pageant of color" month (October) which officially lifts the curtain on our small game season, and which to many is the most thrilling month of the year. Yes, a long tramp with the beagles, a day with the setters, a morning in the duckblind with wildfowl portraying early migrating uneasiness puts one in balance with his surroundings. Add a companion who understands and the scene is complete. What more can one ask for? If you have been there you will prepare again for the coming season. If not, you have overlooked one of the real pleasures of life. The author feels there is nothing better for a person when he is blue and his nerves are more or less jangled. We suggest you think this over because there is nothing that equals a day afield with a favorite smoothbore.

Never Check Their Guns

Despite all previous warnings many hunters never check the mechanical condition of the gun they are going to use from one year to the next and October is a poor time to commence thinking about such laxity. Some plan on borrowing a friend's gun. This is definitely poor sportsmanship, and haphazard gunning technique. The man who is silly enough to loan a firearm he cherishes, even to his best friend, is asking for trouble. He will soon find he has developed an enemy instead. If the average Joe cannot afford one of the present-day reasonably-priced guns and take time out to become acquainted with it, he lacks the hunting instinct and does not belong in the game. The sporting goods shelves are full of good, new guns as well as many satisfactory condition used ones. Buy from reliable dealers, especially those who are experienced gunners themselves. You can depend upon their advice, and if anything does go wrong you know where you got it.

Frequently, we are asked for advice on what to buy only to find out later



THREE OF THE BEST 28-GAUGE shotguns from the Wesley Franklin collection. Top is a very fine Parker side by side double. Middle is one of the late model over and under Brownings. Bottom is the Winchester Model 12 with ventilated rib.

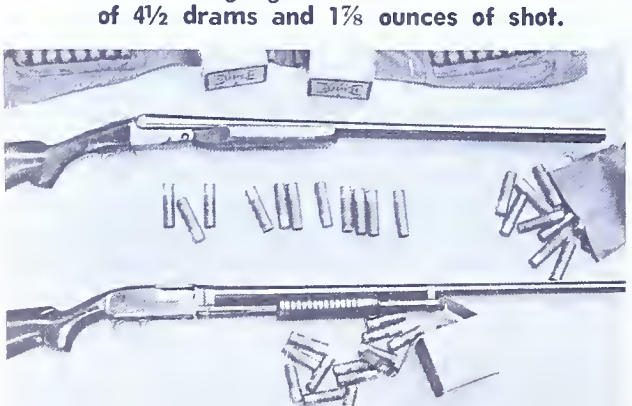
the said hunter took some completely inexperienced meddler's advice and purchased just the opposite. We have



SAVAGE MODEL 24—.22-410 and .22-20-gauge over and unders special purpose rifle and shotgun combinations. Lower gun handles both 2¾- and 3-inch 20-gauge shells from light to magnum loads. Top barrel can be had in .22 long rifle or .22 Winchester magnum rim-fire rifle calibers.

in mind one woodchuck shooting newcomer who asked which .243 caliber rifle to purchase. Naturally our choice

LONG-RANGE GOOSE AND DUCK special purpose guns. Top is a super 10-gauge magnum Parker using a 3½-inch shell loaded with 5 drams and 2 ounces of shot. Bottom is the Winchester Wildfowl Model 12 magnum in 12-gauge chambered for 3-inch loads of 4½ drams and 1⅞ ounces of shot.



is the Model 70 Winchester, precision made by the firm who produced this popular caliber. Our friend actually paid more and selected a Finnish model "supposed-to-be better." We have never seen a Model 70 in .243 that was not tops. The European model tipped the bullets at less than 100 yards so badly the group looked like a pattern of No. 4 buck at that distance. A similar incident happened with a dolled up Swedish arm chambered for the same cartridge. The dealer in this case attempted to make good but the replacement was little better than the first one. Why buy this way? Such aggravating incidents happen more often in the shotgun field than in the rifle case because many more shotguns are purchased and used than rifles. Defects in a shotgun are not noticed quickly by the average buyer due to the fact they are not the precision tool the rifle is. Many shooters are happy with the gun with which they kill a rabbit now and then. They never take time to pattern their gun at 30 and 40 yards with different loads and different sized shot. Such shooters are as surprised when they hit as when they miss. So it goes with the average gunner who is rapidly becoming a minority in this day of special recreational skills.

Our aggressive firearms and shot shell manufacturers are producing special purpose arms and ammunition that are the best in the world "by-a-long-sea-mile" and don't let anyone kid you about that. On this subject of special purpose arms, take a look at the little over and under Savage .22-20 combination arm. We have been shouting for such a gun since Marlin discontinued their over and under rifle and shotgun combination. Such a gun has a definite place in the scheme of better and more profitable "woods-loafing." Savage Arms Company has been making such a firearm, .22-410, for some time. This arm never appealed to the writer as really practical because the 410-gauge leaves a lot to

be desired from shot shell performance except at the very shortest ranges. However, the .22-410 found many satisfied users.

The new Model 24-DL is made with the top barrel chambered for the snappy little .22 Winchester magnum rim-fire cartridge, or the .22 long-rifle. The bottom barrel is chambered for the new 20-gauge 3-inch magnum shell with its 1¼-ounce load of shot ahead of 3 drams equivalent of powder. It also handles the 2¾-inch standard 20-gauge loads. This arm weighs around 6½ to 6¾ pounds according to density of the wood. The one we tried weighed 6 pounds 10 ounces. It handled nicely, made a satisfactory pattern with the 2¾-inch 2½-dram 1-ounce No. 8 trap load, and good enough pattern with the 3-dram 1¼ No. 4 shot three-inch magnum shell to have downed a turkey at 35 yards. Accuracy was excellent with the .22 magnum rifle barrel, considering open sights. The rifle barrel is grooved for a tipoff scope mount. The little arm is all fancied up with satin-chrome finish on the frame, trigger guard and top lever, and a gold-plated trigger. In the hands of an efficient woodsman this should make a good all-purpose arm. While the .22 magnum rimfire should be fairly efficient on turkey, it would be nice to have the top barrel chambered for a more powerful center-fire .22.

Several new 28-gauge double over and under and side by side guns are coming out of Europe. With the announcement of 2⅞-inch 1-ounce shells being manufactured by Winchester and Remington, this little gauge should stage a comeback as such a load places it in the former 20-gauge Xpress load category. The few Parkers made in this gauge are selling at fabulous prices. Winchester manufactured a few thousand Model 12's in this gauge several years ago, but try and buy one now. Recently I sent one of these fine little guns into Simmons for a complete rejuvenation and ventilated rib for, collector of fine shotguns,



DUCK SHOOTING calls for special purpose guns if one seeks to get the most out of the sport. Build blinds early enough so that the material used will age and look natural on the opening day.

friend Wesley Franklin, of Moscow, Pa. It came back looking like a special Trap Model. One would have to sneak it out at night to get it. Remington makes their Model 11-48 Model autoloading shotgun in 28 gauge. It is called the 11-48 SA. This is probably the best buy at the moment in its price range for one who prefers this, the most efficient of the sub-gauges. We would like to see the Model 12 Winchester slide-action repeater made again on a frame as light in proportion as their Model 42. Probably the nicest 28 double made today is the one manufactured by Browning. It is in the medium-price class and up to Browning's standard of fine workmanship. All of these 28's make excellent special purpose guns for woodcock, quail and other easy to kill game as well as rabbits before beagles. Their weight factor, light recoil and standard 20-gauge efficiency are features appreciated by beginners and ladies.

What is an all purpose or special purpose gun for one person is a monstrosity to someone else. I believe that famous southern gentleman author and smoothbore expert Nash Buckingham mentioned at one time his special purpose gun was a 9-pound 12-gauge A. H. Fox with 32-inch barrels bored full and full, and chambered for the 3-inch shell. He used this high quality arm with light loads on his favorite southern game bird, the quail, and "clobbered" the great Canadians with the heaviest magnum

loads along the Mississippi bayous. "De Shootinist Gent'man," as some called him, is one of the country's leading exponents on smoothbore perfection. His beliefs are the same as mine—the special purpose or all purpose gun is the gun you are able to own regardless of what gun it is. Learn to use it—it is as simple as that.

Probably the greatest special purpose shotgun made during the last 30 years was the 10-gauge Super Magnum developed by my late friend Lou Smith of the Ithaca Arms Company in conjunction with Spencer Olin of the Western Cartridge Company. Ithaca sent me the fifth one of these big guns that was made. I believe Charles Askins, Sr., obtained the first one. The serial numbers of these guns started at 500,001. Mine was 500,005. They fired a shell 3½ inches long containing 5 drams equivalent of powder and two ounces of shot. Like Nash Buckingham, I used this 11-pound gun for all game for over 12 years despite the fact I had a variety of 18 other shotguns in the rack. Gun weight never bothered me. I was raised with big guns and have always preferred them to unnecessary light ones. They are more steady to swing. Ithaca discontinued making these excellent big shotguns and the gap has been filled by those in the same caliber from Spain, Belgium, Italy and others, despite the fact they are of questionable quality. Americans pay over $300 freely for foreign doubles. I am at a loss to understand why our good American firms allow this business to go elsewhere.

Good ammunition has kept pace with new and special guns. Remington has reduced the price of their new indestructible plastic shells to equal that of paper cases. These are made in all load combinations in 12, 16, and 20 gauge. Winchester has recently announced the installation of a new polyethelene collar to protect shot charges from abrasion and deformation during its trip through the barrel. They claim at least 10 per cent more efficient performance, which means extra range. The collar forms a shield for the pellets until they are well on their way beyond the muzzle. These shells are called Mark V. They are made under the Super X brands in 20, 16 and 12 gauge Express and Magnum loadings as well as trap loads. We suggest you try them. Winchester-Western also furnishes a special goose load I have hand-loaded for years. It is in their 3-inch 12-gauge shells and contains 41 pellets of No. 4 buckshot —.24 caliber round pellets over twice the weight of BB shot. Such a shell can be useful when used intelligently.

Whether you intend to use a featherweight 28-gauge or a 11½-pound 10-gauge magnum for your special purpose shotgun you can be sure it is generally the man behind the gun that counts.

Conservation Guide Published

The Pennsylvania Department of Public Instruction has published a new 110-page book for Pennsylvania school teachers called "Pennsylvania Teaching Guide to Natural Resource Conservation."

Aimed at teachers from primary to twelfth grade, the guide contains teaching information on water, soil, forestry, wildlife, minerals, suggested activities and visual-aids material available to teachers. In addition, the guide has a complete bibliography of conservation resource-use reference materials.

The book's author, Eleanor H. Bennett, Curriculum Specialist, Conservation Project of the Department of Public Instruction, said that this guide should make it possible for any practicing teacher to instruct his or her students in resource conservation. Mrs. Bennett also said that this is the first book of its type ever to be produced in Pennsylvania.

The guide is available to teachers at all county school offices.

Pennsylvania Official 1962 Open Season and Bag Limits

The Pennsylvania Game Commission established the seasons and bag limits below for resident game and fur hearers for the 1962 hunting license year which begins September 1.

SMALL GAME

	Daily Limit	*Season Limit*	DATES OF OPEN SEASONS *First Day*	*Last Day*
Rabbits, Cottontail (not more than 20 in combined seasons)	4	20	Oct. 27	Dec. 1 AND
			Dec. 26	Jan. 1, 1963
Squirrels, Gray, Black and Fox (combined) (not more than 30 in combined seasons)	6	30	Oct. 27	Dec. 1 AND
			Dec. 26	Jan. 1, 1963
Ruffed Grouse (not more than 10 in combined seasons)	2	10	Oct. 27	Dec. 1 AND
			Dec. 26	Jan. 1, 1963
Wild Turkey—Counties and Parts of, not listed below	1	1	Oct. 27	Nov. 10
—Counties, and Parts of, listed below°			Oct. 27	Nov. 24
Ring-necked Pheasants, males only	2	8	Oct. 27	Dec. 1
Bobwhite Quail	4	12	Oct. 27	Dec. 1
Hares (Snowshoe Rabbits)°° (certain counties closed)	2	6	Dec. 26	Jan. 1, 1963
Raccoons (hunting or trapping)	Unlimited		No close season	
Woodchucks (ground hogs)	Unlimited		No close season	
Grackles	Unlimited		No close season	
Squirrels, Red (closed Oct. 1 to 26, inclusive)	Unlimited		All months except Oct. 1-26	

BIG GAME

Bear, over one year old, by individual	1	1	Nov. 26	Dec. 1
Bears, over one year old, hy hunting party of three or more	2	2	Nov. 26	Dec. 1
Deer, Archery Season, any deer	1	1	Oct. 1	Oct. 26
Deer, Male with 2 or more points to an antler or a spike 3 or more inches long			Dec. 3	Dec. 15°°°
Deer, Antlerless			Dec. 17°°° only	

FUR BEARERS

Skunks and Opossums	Unlimited		No close season	
Minks	Unlimited		Nov. 22	Jan. 20, 1963
Muskrats (traps only)	Unlimited		Nov. 22	Jan. 20, 1963
Beavers (traps only)—certain counties°°°°	6	6	Feb. 9	Mar. 10, 1963
—remainder of state	3	3	Feb. 9	Mar. 10, 1963

NO OPEN SEASON—Hen Pheasants, Cuh Bears, Elk, Otters, Hungarian Partridges, Sharp-tailed Grouse.

° *Wild Turkey Season*—Oct. 27-Nov. 24—in the Counties of Cameron, Centre, Clearfield, Clinton, Elk, Forest, Jefferson, Lycoming, McKean, Potter, Sullivan, Tioga, Union, Warren, and in those parts of Blair and Huntingdon Counties north of Route 22, and in that part of Mifflin County north of Route 22 west of Lewistown and north of Route 522 east of Lewistown, and in that part of Snyder County north of Route 522, and also in those parts of Bradford, Columhia, Luzerne, Montour, Northumberland and Wyoming Counties north and west of the North Branch of the Susquehanna River.

°° *Hares* (*Snowshoe Rabbits*)—Counties Closed: Bedford, Blair, Cambria, Centre, Elk, Forest, Huntingdon, Jefferson, McKean, Somerset, Warren.

°°° Except for Letterkenny Ordnance Depot Ammunition Area (Franklin County) where the season for Antlered Deer closes Dec. 14 and the season for Antlerless Deer is Dec. 15 and Dec. 17.

°°°° Counties of Lackawanna, Monroe, Pike, Susquehanna, Wayne and Wyoming.

Shooting hours for big and small game resident to Pennsylvania are 7 a.m. to 5 p.m., EST, every day of season except on the opening day of small game season, Octoher 27, when hunting of any kind prior to 8 a.m., EST, is unlawful. One exception is the archers' deer season when the hours are 6 a.m. to 5:30 p.m., EST. The other exception is the hours for woodchuck hunting which are 6 a.m. to 7:30 p.m., EST, July 1 to September 30.

Game (including woodchucks and raccoons) may not be hunted on Sunday.

IT'S THE LAW

NOT ALL GAME LAW VIOLATIONS ARE INTENTIONAL. AS A SERVICE TO COMMONWEALTH SPORTSMEN, GAME NEWS, IN COOPERATION WITH THE DIVISION OF LAW ENFORCEMENT, TAKES THIS MEANS TO BRIEFLY CLARIFY SOME OF THE MOST FREQUENTLY MISUNDERSTOOD OR LEAST KNOWN GAME LAWS.

QUESTION:

MUST I HAVE A SPECIAL ARCHERY LICENSE TO HUNT DEER WITH BOW AND ARROW?

ANSWER:

ONLY DURING THE SPECIAL ARCHERY SEASON. DURING OTHER OPEN SEASONS FOR DEER ONLY THE CURRENT HUNTING LICENSE IS REQUIRED.



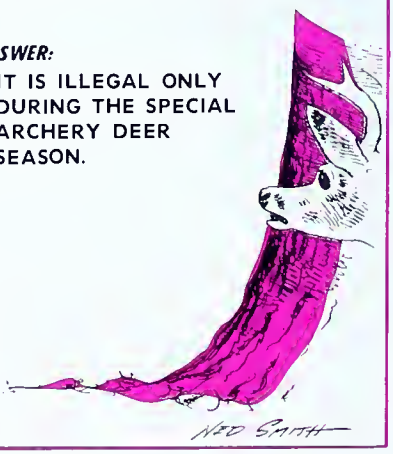


QUESTION:

IS IT ILLEGAL TO CARRY FIREARMS WHILE HUNTING WITH BOW AND ARROW?

ANSWER:

IT IS ILLEGAL ONLY DURING THE SPECIAL ARCHERY DEER SEASON.



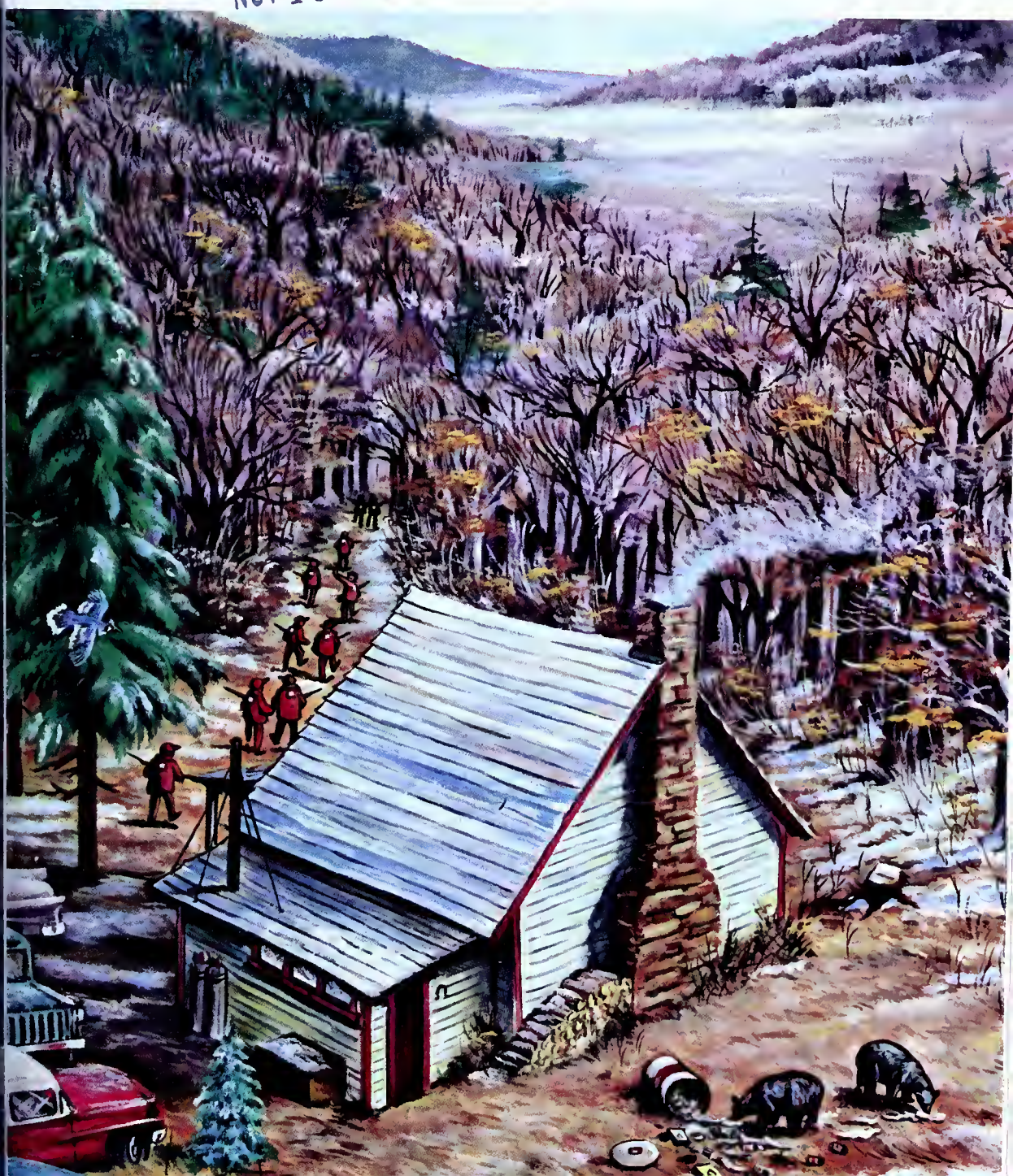
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Cover Painting by
Nick Rosato

COVER: Opening day of bear season, November 26, could look like our cover scene at some hunting camps. Although most of the bears will be playing "hard to get" on that day, artist Nick Rosato has given us something to chuckle about. Gun columnist Jim Varner features "Firearms for Bear Hunting" on page 54 for those readers who will actually be on the prowl for Mr. Bruin.

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NE
DZEN GIFTS
NE DOLLAR

entertain and inform
r hunting friends
ing 1962 . . .

GIVE
ENNSYLVANIA
AME NEWS

EDITORIAL . . .

The Key to Public Hunting

ALTHOUGH Pennsylvania hunters have more land available to them than is available to hunters in most other states, particularly the heavily populated East, a "place to hunt" continues to be the sportsmen's most pressing problem. Each year the total "acres per hunter" continues to shrink as more land is used for homes, highways and industry. In addition, "No Trespassing" signs continue to increase, particularly around metropolitan areas where open land for hunting is needed the most.

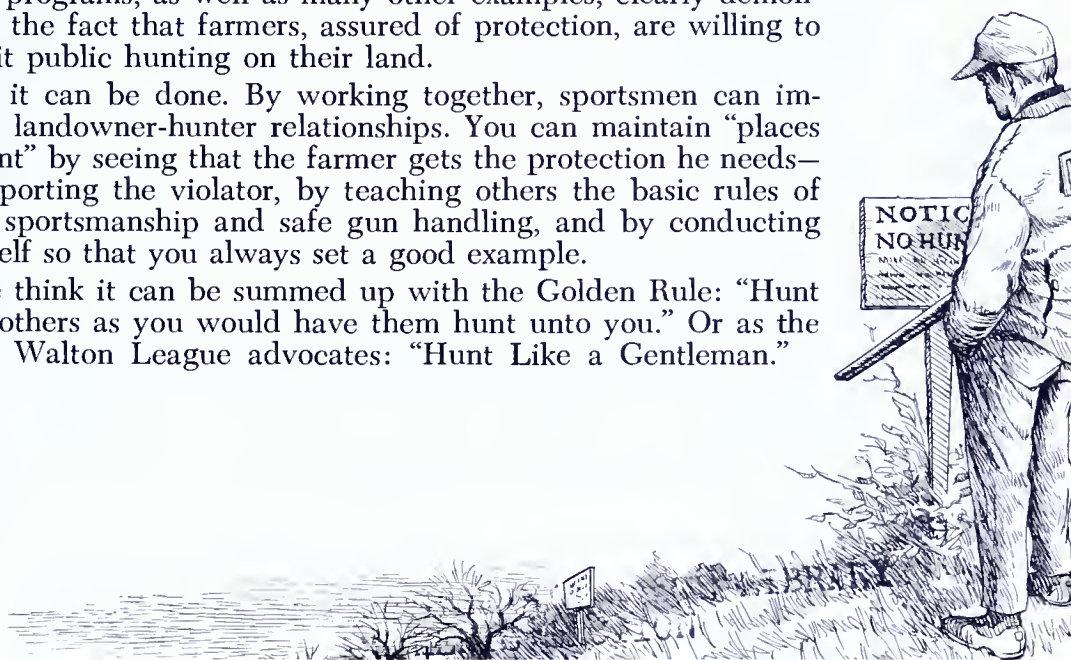
Why is land posted?

Who is to blame for posted land? Some attribute it to changing economic conditions, others to modern changes in farm operations. But primary reasons are carelessness, disrespect and discourtesy on the part of some hunters. Because of a few, everyone suffers. The number of hunters who shoot too close to buildings, who break down fences, who leave gates open, who litter the countryside, and who destroy the farmer's crops or personal property is small compared to the total number of hunters afield each fall. Nevertheless, it takes only one shot-broken window, one injured cow, one dead chicken, or one pile of trash to lead most farmers to distrust all hunters.

Conversely, there's plenty of evidence to prove that farmers are traditionally friendly to real sportsmen, that they won't mind the public hunting on their land if they can be assured of some protection for their families, livestock and property. The Game Commission's Cooperative Farm-Game Program has been internationally recognized as proof that well over a million acres of privately-owned land can be kept open to public hunting. More recently, another million acres of farm land has been opened through a simple, but effective Safety Zone Program. Both of these programs, as well as many other examples, clearly demonstrate the fact that farmers, assured of protection, are willing to permit public hunting on their land.

So, it can be done. By working together, sportsmen can improve landowner-hunter relationships. You can maintain "places to hunt" by seeing that the farmer gets the protection he needs—by reporting the violator, by teaching others the basic rules of good sportsmanship and safe gun handling, and by conducting yourself so that you always set a good example.

We think it can be summed up with the Golden Rule: "Hunt unto others as you would have them hunt unto you." Or as the Izaak Walton League advocates: "Hunt Like a Gentleman."




NED SMITH



WALKIN' SHOES

By NED SMITH

The Chinaman in Our Cornfield

1. **The first successful stocking of pheasants in the United States was made in 1881. In what state were these birds liberated?**
2. **The ring-necked pheasant was originally a native of Europe. True or false?**
3. **Like a domestic rooster, the cock pheasant flaps his wings before he crows. True or false?**
4. **Ringnecks build their nests in low bushes and vines. True or false?**
5. **How old are young pheasants when they leave the nest?**
6. **Why are ringnecks difficult for pointing dogs to handle?**
7. **Rival male ringnecks often kill one another in mating season fights. True or false?**
8. **Does the cock ringneck mate with only one female each spring?**

IMPORTING animal life from other lands is always risky. The unhappy effect of the starling and the English sparrow on our native bird population is a good example, to say nothing of the economic calamities produced by the Norway rat, the Japanese beetle, the gypsy moth, and other undesirable foreigners.

The ring-necked pheasant is a notable exception. First successfully introduced into Oregon from China in 1881 this colorful bird has since become an important upland game bird in most of the northern United States. Its popularity is well-deserved. The ringneck is a smart bird, a good match for the most clever dogs and hunters. It is hardy enough to withstand all but the most brutal northern winters. Its feeding habits are almost entirely beneficial. It is a sporty bird to hunt and shoot, a stunning trophy for the den wall, and, when prepared by an understanding cook, a mouth-watering treat.

Ringnecks were scarce in Pennsylvania in the "good old days." There had been an annual open season on these birds since 1902, but early attempts by various individuals and clubs to establish pheasants in this state met with meager success. In 1915 the Game Commission pared down the seasons and bag limits and instituted a stocking program of its own. Success was almost immediate. In the fall of 1915 a few less than 800 birds were shot. Five years later the take had risen to 23,000. Today between 400,000 and 500,000 are bagged annually, and more and more rabbit hunters are turning to the long-tailed birds for their upland sport.

Pennsylvania ringnecks are a pleasing mixture of several species and subspecies of Asiatic pheasants, but most closely resemble the Chinese pheasant. The males often exceed three feet in

overall length, due to their extremely long, slim tails. The hens are somewhat smaller and their tails are shorter. A big rooster will weigh three pounds or more, but the average is about 2¾ pounds. Hens average a little over two pounds.

A Strikingly Beautiful Bird

As anyone knows who has seen one at close range, a male ring-necked pheasant is a strikingly beautiful bird, its plumage is a pleasing blend of the richest colors imaginable. The head is dark, iridescent blue glossed with green and violet in certain lights. The crown is greenish bronze edged in gray. A brilliant scarlet wattle covers the side of the face behind the ivory bill and a white band encircles the neck. Breast and chest are rich, glossy purplish red, with each feather narrowly edged in metallic blue-black. The mahogany red of the chest blends into orange-bronze on the flanks, while the belly is black. The upper back is usually straw-colored or brownish streaked with black, blending into rich purplish red or mahogany marked with buff and blue-black on the scapulars that overlap the wings. The rump varies from yellowish gray to golden green or powder blue, bordered on the sides with orange-red. The wing coverts are powder blue, the flight feathers dusky barred with whitish or buffy. The long tail is tan centrally speckled with dusky and edged with a purple-red fringe. All but the outer feathers are regularly barred with black. The feet and spurred shanks are gray.

The hen's plumage is purely functional, being perfectly designed to make her inconspicuous while incubating and brooding her young. She is chiefly a pale buffy brown overall, heavily mottled and barred with brown and black above, faintly marked beneath. Her only departure from utter drabness is a faint wash of iridescent purple that is sometimes apparent on the sides of her neck.

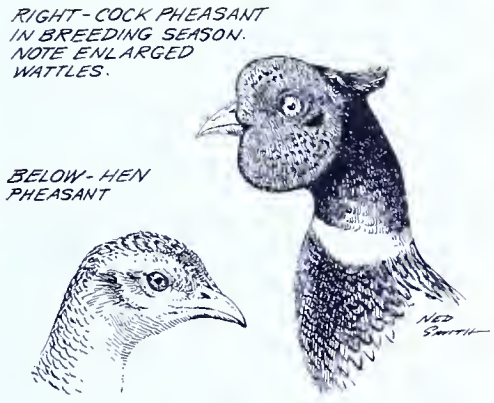
Fortunately for the future of the pheasant population, the cock bird sees in the hens something more than dull plumage. Each springtime he sets forth across his rolling acres rounding up willing mates. His call . . . two raucous crowing notes followed by a series of quick wingbeats . . . is heard at intervals throughout the day. It is primarily a statement of territorial ownership, and should a rival male dispute his claim there is apt to be a fight. Participants are rarely injured in a pheasant Donnybrook but the fierce-looking blows of spurred shanks and flailing wings soon determine who's the best man. The other leaves the scene and thereafter keeps his distance.

Something to Crow About

Crowing means "Keep out" to other males, but to neighborhood females it says "come a runnin.'" They don't come a running, that's true, but the resultant meetings of cock and hen could hardly be called accidental. Being a polygamist, he plays the field; four or five hens are just about the right number to keep life interesting.

While his courtship display is not so elaborate as the strutting of a ruffed grouse or a wild turkey, the cock ringneck does attempt to show off his handsome plumage to the best advantage. Also, at this time of the year his wattles are fiery red and so ex-





panded as to shield almost the entire head.

When mating has taken place each hen makes a nest in her favorite spot. It is a simple affair, a shallow depression in the ground lined with dried grasses or leaves. Hayfields seem to be the first (and worst) choice for nesting sites, and the losses of eggs, young, and incubating hens due to mowing operations are incredible. Less frequently utilized locations are fence rows, old fields, woodland borders, and streamside thickets. As a rule pheasants avoid extensive forests, but several years ago I saw and photographed a nest on a mountain at least a half mile from the forest's edge.

Dozen Eggs Average

An average of about a dozen eggs are laid, varying in color from pale buffy brown to pale smoky olive. One hen I know of took over a quail nest containing eleven eggs and, after adding seven of her own, continued to incubate the whole kaboodle. It would have been most interesting to see the outcome of her project, but she finally abandoned the odd mixture after being driven from the nest several times by badly-trained neighborhood children.

Baby pheasants chip the large ends off their eggshells on the twenty-third or twenty-fourth day. Wet and bedraggled at first, they are transformed into the cutest little creatures imaginable with the drying of the natal down. Their general coloration is buffy, tinged with brown above. The crown is rich brown and black and there is a blackish streak behind the eye. One dark streak runs down the middle of the back, flanked by a matching streak on each side.

Baby pheasants just can't stay put. Almost as soon as they are dry they are hustling about beneath the hen's warm plumage, and before the day is out they have left the nest, never to return.

A Rough Life

Little pheasants lead a precarious existence. Even before they emerge from the eggs they are in constant danger of being obliterated by mowing machines or devoured by snoopy skunks, snakes, opossums, coons, foxes, crows, or roving farm dogs. After leaving the nest they are even more vulnerable. Wet, cold weather is particularly hard on infant ringnecks. If they escape foul weather there are countless other enemies to cope with. Cooper's hawks, foxes, weasels, domestic cats and dogs, raccoons, great horned owls, and some of the larger snakes are not averse to making a meal of them and their small size and relative helplessness tempt many a predator that would ordinarily not bother anything but mice and similar trash.

Even the old birds have their enemies. Man's automobile, mowing machine, and shotgun being chief of these. Goshawks and great horned owls pick off an occasional ringneck where their ranges overlap, and foxes account for their share.

But, in their strange new world the chicks have little time to worry about danger. They roam the dry fields all summer long, sampling this food and that, investigating all sorts of crawling and flying things, hiding quickly at a warning signal from the hen, and en-

joying life to the fullest as soon as the coast is clear. Food is abundant, and they dine heavily on ants, beetles, cutworms, grasshoppers, and other insects, wild berries, succulent greens, and weed seeds. Dust baths at their favorite bare spots along the field edges are a daily luxury.

The youngsters mature rapidly. At two months of age they can make speedy but abbreviated flights; in another month they can take wing like adults. Clothed in their juvenile plumage the young all resemble miniature females, but by late August the males are beginning to show evidence of their sex. The red coloring of the wattles is one of the first indications. The appearance of purplish red feathers on the breast and sides of the chest, and a smattering of dark, metallic green feathers on the neck give the immature males a conspicuously patched appearance. In late summer it is not unusual for several hens to have combined their broods, resulting in big flocks of thirty or forty birds.

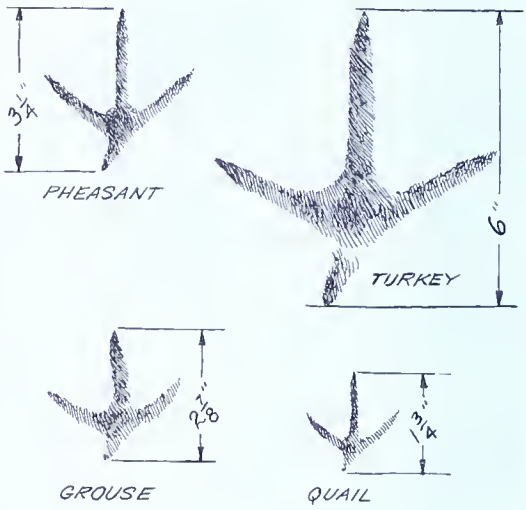
By the time the frost is on the pumpkin it takes a practiced eye to distinguish birds of the year from adults. When the opening day of small game season rolls around they're *all* old enough and smart enough to give the gunner a run for his money.

Excellent Runners

Ring-necked pheasants have several characteristics that, while they are not appreciated by many hunters, do serve magnificently to perpetuate the species. One is the ringneck's propensity to run. A bobwhite will freeze on the spot at the first sound of footsteps in its coverts, and a grouse might freeze, sneak off a short distance and hide, or flush wild. But a pheasant's first impulse is to stretch out its spindly shanks and put a hundred yards between it and the suspicious noise. This characteristic is especially prevalent in cornfields and sparse cover.

What consternation this has wrought in pointing dog circles! Many setters

FOOTPRINTS OF GAME BIRDS (MALES)



and pointers that are the acme of perfection on quail simply don't know what the heck to do with birds that won't stay put. Many of them wind up as hopeless creepers. Little by little the pointing breeds are wising up to the Chinese sprinter, and a small percentage are becoming first rate pheasant dogs, but it still takes a smart dog to cut off a ringneck's retreat and nail him to the spot.

Feeling that a mediocre pointing dog is not the answer, a growing number of hunters are using flushing dogs. The springer spaniel makes a perfect pheasant dog, and several of the retriever breeds do a good job. Rabbit hunters have long known that a beagle or basset that takes kindly to trailing birds is as dependable as any breed around. The hunter's job is to stay with the dog. If he can do that shooting is practically guaranteed.

Another of the ringneck's nasty habits is that of ducking into ground-hog holes, drain pipes, and the like. I've seen cagey old cock birds flush too far ahead of the hunters to offer a shot, then glide to a landing in a nearby hollow and gallop right into a ground-hog hole. That sort of thing's

just not cricket. Cripples are even more apt to take refuge underground if there's a suitable place in the neighborhood—a splendid reason for shooting as well as you are able and using a dog that can get his teeth into a cripple pronto.

Another thing many hunters find fault with is the way a ringneck flies. The beginner, whose cherished ambition is to bag one of those gorgeous creatures, is firmly convinced that they spring from the ground at a velocity slightly faster than the speed of sound. No *ordinary* take-off was ever accompanied by such an unearthly racket, they are sure.

The experienced gunner's gripe is that the ringneck takes to the air with all the reckless dash of a Rhode Island red going to roost.

"Nothing to it," whines Mr. Hotshot. "You just can't miss those things."

Well, I've seen those dead shots in action. And I've seen them neatly miss cock birds that skimmed the stubble-tops like quail on take-off, or crossed in front of them at full throttle. Those unconventional take-offs will get 'em every time, proving that not all pheasants are pushovers and not all pushovers are pheasants.

The unbiased truth is that the ringnecked pheasant, while not usually held in the same affection and esteem as the native bobwhite and ruffed grouse, is still a mighty fine game bird. All of us, tyro and expert alike, would certainly miss his gaudy good looks and loud-mouthed arrogance if he weren't around this fall.

ANSWERS TO QUESTIONS

1. **Oregon.**
2. **False. Its original home was in Asia.**
3. **False. He flaps his wings after he crows.**
4. **False. Ringneck nests are built on the ground.**
5. **They usually leave the nest the day they are hatched.**
6. **Because they have a tendency to sneak away while the dog is pointing.**
7. **False. Their fights rarely result in injury to the combatants.**
8. **No, he usually mates with more than one if available.**

PORTRAITS OF THE SEASON

November

THE snows of November, first of the year, are fresh down-white things that remake the land in a single night. It goes to bed October-crisp and rises next morning stilled by the moth-soft snow that runs to the pond's black edge. The beaver's lodge sticks up out of candy-thin ice like a huge and incongruous ice-cream cone. But the snow melts. The woods turn sodden in a day of foggy rain, and then to iron as it freezes deep. The bear, deep-tallowed and sleepy, finds a shallow cave there to dream of bee trees and honey, but the jumping mice have long gone below the winter, curled chin to chest and dropped off into the almost-death of true hibernation. The red bat has migrated to the south. But many others, the big brown, the long-eared, the least, the cinnamon-colored pipistrelle, hang in mountain caves. The deer are at their best now, sleek-coated and plump, ready for winter. From the north come the birds of winter and the shrike takes up his hunting perch in the thorn bush. The hunter comes back through the twilight woods, cherry-nosed and chilled, but swinging a gutted rabbit and happy. It snows again, and deep, and the stars draw closer.—*John Guilday*

It's Impossible to Satisfy Everyone, but...

A Balanced Deer Herd ...Near Utopia

By Harvey A. Roberts
Chief, Division of Research

ACCORDING to the dictionary, Utopia is an imaginary island represented as enjoying perfection in all things. Assume for a moment that this near-perfect condition existed in Pennsylvania as far as deer management is concerned. Sportsmen would have an unlimited supply of whitetails and every hunter would annually kill a buck of trophy proportions. At the same time, there would be no deer damage to agricultural crops or young forests nor losses to winter starvation or collisions with automobiles. As for the animals themselves, they would ignore all woody vegetation and wax fat on a diet of nothing but dry leaves. Their reproductive rate would jump from an average of 1.7 fawns per adult doe to 3.0. All yearling bucks would sport antlers of 6 points or more with basal diameters exceeding 1". In essence, everyone with an interest in deer, whether it be direct or indirect, would be ecstatically happy.

Unfortunately the size of the deer herd and the supply of food that supports it involves many diverse interests. Inasmuch as the Game Commission is responsible to all citizens of the Commonwealth for the proper management of this resource, a true Utopian situation is obviously unattainable for any specific group.

At first glance this might appear very disheartening to the avid deer hunter, to the farmer who depends on his crops for a livelihood and to the forester who is responsible for the future of our timber resource. However, closer scrutiny of the problem will reveal that all is not lost and appreciable strides have been made toward managing the deer herd in the interest of all concerned.

A look back over the last sixty years will serve to illustrate not only the problems faced by the Game Commission but the progress that has been made in deer management.

Hunting regulations that prohibit the harvest of antlerless deer serve a

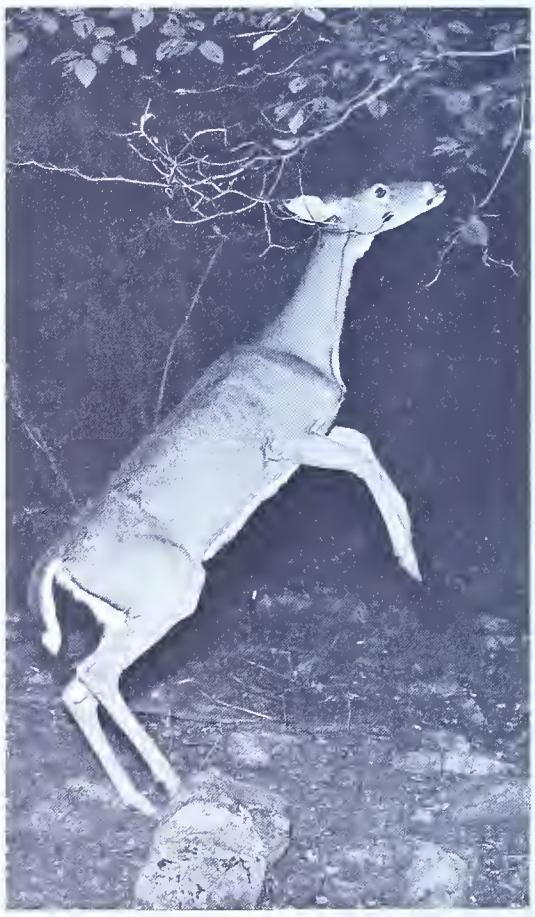


Photo by Leonard Lee Rue

POOR FOOD CONDITIONS in our forests result in scenes like this. Only the largest deer can reach this food resulting in starvation by yearling and fawns of the season. A deer herd balanced in proportion to the amount of food available on the range will eliminate this problem.

useful purpose only when an increase in herd size is warranted. Conditions in Pennsylvania at the turn of the century serve to illustrate this point. Large-scale lumbering operations and uncontrolled forest fires turned vast areas of the state into ideal deer, grouse and snowshoe hare habitat. As a matter of fact, browse was produced in greater quantities than the comparatively small deer herd of that period could consume. In order to more fully utilize this overabundance of food, the herd was permitted to increase by affording complete protection to antlerless deer. By the early 1930's it is estimated that our deer range supported one million-plus animals. At this time it also became apparent that this type of protection was beginning to work against both the animals and the range that supported them. In addition to completely disrupting normal forestry practices, the severe overbrowsing resulted in massive winter starvation losses, a drastically reduced reproductive capacity and poor antler development. As the habitat was destroyed grouse and snowshoes also disappeared.

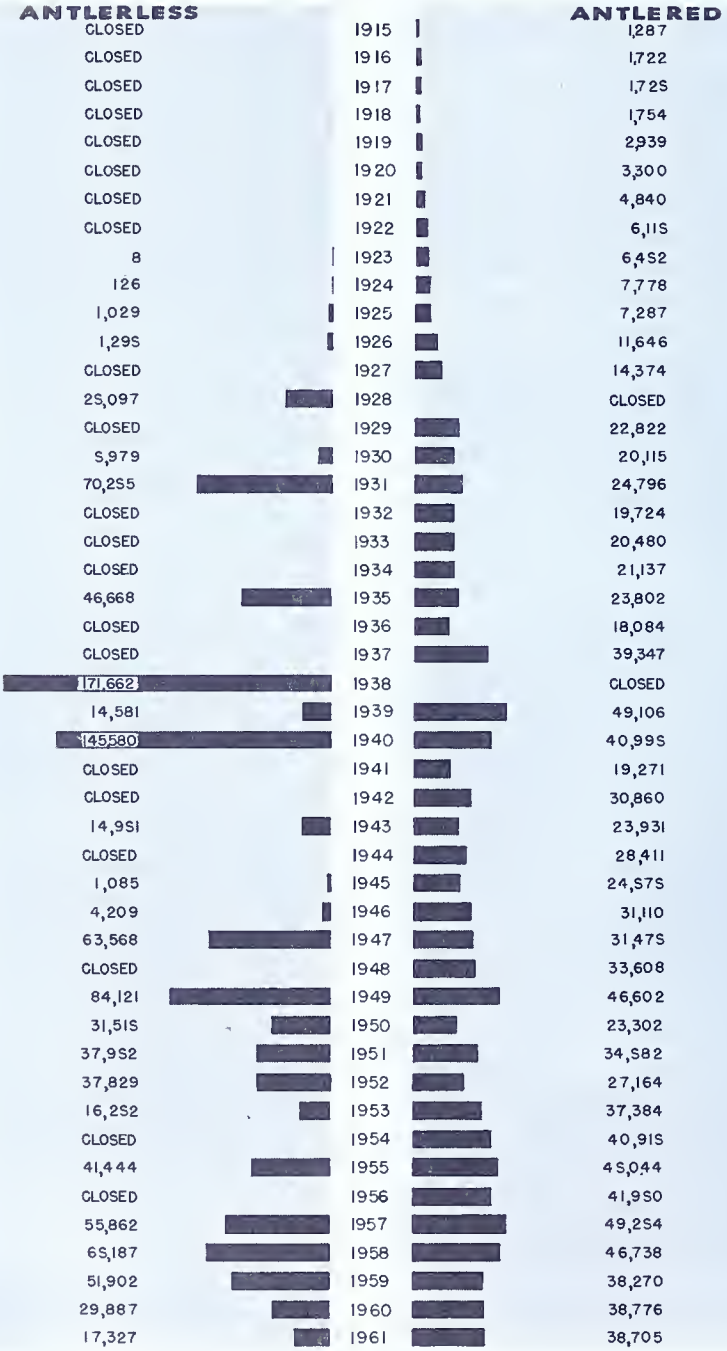
Wildlife administrators became acutely aware that the harvest of antlerless deer was necessary to save a rapidly deteriorating and overbrowsed range. Attempts to remedy this situation were met with opposition from many quarters. Well meaning sportsmen and landowners who were not ready to accept the balanced herd concept and deer management on a sustained yield basis eagerly signed petitions to close counties to antlerless deer hunting. As a result, the Game Commission's efforts to bring the herd into balance with existing food supplies took the form of sporadic antlerless deer seasons which, in the main, proved ineffective. Allowing the herd to increase in size for several years before declaring an antlerless season resulted in a "feast or famine" situation as far as browse was concerned. The winters following seasons restricted to buck hunting were characterized by excessive starvation losses. The problem was further compounded by a maturing forest that was growing out of reach of deer. Preferred browse and timber producing species rapidly disappeared. This forced more deer into agricultural areas in search of food and also creating an untenable position for foresters. Not only did agricultural damages skyrocket but, as the deer removed the seedlings and sprout growth following a timber harvest, vast areas reverted to worthless stands of poverty grass and bracken fern. Had the Commission at that time received the full cooperation of the sportsmen and been able to keep the herd within reasonable bounds, our present-day range would undoubtedly be in better condition.

Two-Phase Program in '57

With increased knowledge as to the best methods for managing this resource, the Pennsylvania Game Commission initiated a two-phase program in 1957, designed to (1) bring the herd into balance with existing food supplies and (2) maintain population numbers at levels more compatible with other land uses.

The first objective was largely achieved during 1957, 1958 and 1959 by issuing antlerless deer licenses in numbers sufficient to harvest more than the annual growth of the herd. In other words, the harvest of deer during this two-year period exceeded the size of the fawn crop and thus brought about the desired reduction of the over-wintering herd. (It should be remembered that the addition of fawns each year constitutes an increase in herd size of from 25 to 30 per cent. Unless this annual increment is harvested the deer herd will continue to grow. The removal of antlered deer only constitutes a 12 per cent decrease, therefore, in order to hold a herd at a realistic level and remove the surplus, it is necessary to harvest a controlled number of antlerless

PENNSYLVANIA DEER HARVEST STATISTICS
REPORTED KILL 1915 - 1961



deer.) With few exceptions, this approach to deer management is beginning to pay off in terms of range recovery and reduced agricultural and forestry losses.

While this appears to be fine for those groups closely associated with the land, what has it done for the deer hunter? Have the controlled antlerless deer seasons of the last five years resulted in the virtual extermination of Pennsylvania's deer herd? A glance at the accompanying graph should dispel any fears that the herd has been virtually exterminated or that buck harvests have fallen way below those of the "good old days." Despite the fact that the number of deer hunters has doubled since 1939 and the demands on the land for living space, food and fiber have increased many fold, the Game Commission continues to provide high-yield buck harvests. Even to the nonbeliever this should indicate that there might be some merit in this deer management "madness."



Photo by Karl H. Maslowski

A HEALTHY DEER like this buck will produce a prize "rack" if he has a sufficient food supply. A deer's diet has more to do with the size of the antlers than any other one factor.

Present Herd Maximum

Information stemming from an active deer research program indicates that, with few local exceptions, the present herd approaches the maximum carrying capacity of the range. In other words, any immediate increase in herd size would be detrimental to both the range and the deer themselves. Through annual antlerless deer seasons and the issuance of antlerless deer licenses in quantities designed to remove a predetermined number of surplus animals, the Game Commission has been able to hold the population in check and at the same time realize a yearly harvest of between 38 and 40 thousand legal bucks. Reported state-wide legal antlered deer kills of 38,270, 38,776 and 38,705 for the years 1959, 1960 and 1961, indicate how well the game administrators have called their "shots."

The following ten-year resume of reported deer kills for certain representative areas of the state (on next page) further serves to illustrate the fact that realistic deer management pays dividends on a county level.

Due to a variety of factors, the harvest of deer can be expected to fluctuate from year to year. As witnessed during the 1961 season, the combined effects of hunting pressure, food and weather conditions had a definite impact on both the deer and the hunters.

Reports from field personnel indicated a drop of approximately 25 per cent in the number of hunters afield the first day of buck season. This reduction in hunter activity, especially in the "back" country, favored the deer by reducing the opening day harvest. Deer enjoyed further protection due to the complete lack of tracking snow during the entire two-week period. In addition, the one-day antlerless deer season was characterized by a complete reversal in weather conditions. Hunters "grounded" by freezing rain and fog, which blanketed most of the state, failed to kill the

Pennsylvania Game Commission
REPORTED DEER HARVESTS 1952-1961

		1952	1953	1954	1955	1956	1957	1958	1959	1960	1961
Adams	A*	112	167	200	240	252	378	288	226	311	247
	B**	48	39	.....	167	.....	302	283	317	255	122
Bedford	A	420	571	665	737	750	969	1,020	716	839	775
	B	708	158	.....	420	.....	654	1,188	732	453	261
Bradford	A	604	780	1,018	1,069	1,311	1,282	1,181	964	876	1,036
	B	926	413	.....	1,345	.....	1,690	1,843	1,647	786	392
Cameron	A	679	926	776	975	589	572	845	744	717	642
	B	1,118	531	.....	1,031	.....	616	979	817	585	343
Centre	A	1,020	1,604	1,847	2,220	1,809	1,840	1,952	1,522	1,695	1,347
	B	1,402	505	.....	984	.....	1,385	2,165	1,518	950	545
Clearfield	A	1,007	1,505	1,541	1,862	1,182	1,201	1,572	1,407	1,659	1,577
	B	1,906	923	.....	808	.....	192	1,284	1,011	750	511
Clinton	A	849	1,097	1,182	1,422	1,179	1,229	1,258	1,149	1,203	1,194
	B	1,179	399	.....	367	.....	494	1,026	946	621	428
Crawford	A	282	266	428	407	345	471	426	395	362	374
	B	465	141	.....	925	.....	616	700	540	348	346
Dauphin	A	249	341	404	540	433	546	523	401	473	423
	B	139	112	.....	458	.....	533	751	433	218	145
Elk	A	1,288	1,953	1,982	2,091	1,771	1,658	1,483	1,476	1,380	1,113
	B	2,001	820	.....	2,466	.....	2,808	2,738	2,590	1,710	975
Franklin	A	365	505	571	632	630	792	748	502	612	673
	B	344	142	.....	316	.....	624	940	573	373	488
Huntingdon	A	679	899	1,128	1,240	1,287	1,438	1,773	1,151	1,485	1,345
	B	775	336	.....	385	.....	973	1,534	1,359	944	611
Juniata	A	294	464	368	323	417	306	599	421	500	564
	B	281	122	.....	285	.....	461	538	435	285	231
Laekawanna	A	215	297	468	454	387	481	311	277	279	285
	B	165	75	.....	390	.....	508	388	273	150	75
Luzerne	A	538	835	971	1,081	982	1,266	1,263	1,019	905	923
	B	553	204	.....	751	.....	1,039	1,433	1,145	701	310
Lyeoming	A	1,023	1,391	1,485	1,714	1,631	1,849	1,930	1,394	1,365	1,735
	B	1,234	589	.....	988	.....	1,726	2,100	1,683	730	601
McKean	A	1,116	1,713	1,655	1,462	1,632	1,749	1,123	1,053	860	893
	B	2,012	1,059	.....	2,339	.....	3,135	2,893	2,569	1,134	443
Perry	A	476	576	652	642	680	946	885	678	787	881
	B	525	194	.....	590	.....	823	1,063	690	433	290
Potter	A	1,251	1,675	1,696	1,778	2,078	2,514	2,007	2,025	1,602	1,813
	B	2,807	1,320	.....	1,249	.....	2,860	2,926	3,174	1,650	877
Somerset	A	743	987	1,138	1,284	988	1,491	1,167	1,081	1,043	1,031
	B	1,116	455	.....	1,438	.....	1,572	1,906	1,203	538	406
Sullivan	A	774	1,188	944	1,063	1,115	1,229	990	801	656	819
	B	1,185	500	.....	1,018	.....	1,922	2,025	1,572	726	403
Tioga	A	959	1,138	1,275	1,302	1,371	1,382	1,249	1,060	1,127	1,358
	B	1,525	585	.....	886	.....	1,715	1,791	1,654	796	452
Venango	A	519	562	734	814	792	902	928	893	824	866
	B	808	299	.....	928	.....	929	1,255	815	643	386
Westmoreland	A	497	675	767	892	812	1,130	926	656	729	781
	B	626	57	.....	935	.....	979	1,484	707	354	222
York	A	109	126	142	187	183	249	252	230	230	229
	B	47	43	.....	148	.....	263	260	279	226	101

A* Antlered Deer Kill
B** Antlerless Deer Kill

anticipated number of antlerless deer. Normally, the Commission can expect the harvest of one antlerless deer for every seven licenses issued; during the one-day 1961 season 16 licenses were required. The 1961 hunting season picture was further complicated by a complete mast failure. Normally an abundance of acorns will hold deer in areas affording little else of nutritive value. Last year, however, the animals were forced to forsake their usual haunts in search of food. Many hunters who were unaware of the shift in population, interpreted the absence of deer in favorite hunting territories as extermination of herd. This, of course, was not the case.

While sportsmen cannot expect more and more deer on a range that is adequately stocked, the prospects for the 1962 season are indeed bright. The herd wintered without appreciable loss, the reproductive rate is at a three-year high and there is an abundance of mast. Given a break in the weather, 1962 should prove to be an exceptionally good year for the deer hunter.

The forward strides that have been made in deer management reflect increased knowledge of deer biology and growing public confidence in the Game Commission's approach to the problem. If the Commission is to continue to meet the demands on the resource and provide adequate hunting for this and future generations, people will have to accept something less than their own individual Utopias.

Unless the citizens of the Commonwealth acquaint themselves with modern day problems of herd control and appreciate the position of the farmers, motorists, foresters, sportsmen and game administrators, Pennsylvania will lose its enviable position as leader in the field of deer management.

PROSPECTS FOR THE 1962 DEER SEASON are indeed bright. The herd wintered without any appreciable losses and the reproductive rate is at a three-year high. The food supplies are good throughout the state and with any break in weather, this should be an exceptionally good year for the deer hunter. *Photo by Leonard Lee Rue*





Photo by Donald S. Heintzelman

THESE PUDDLE DUCKS can get into the air so quickly because they lay their wings down on the water and push themselves up much as a man would do in push-up exercises. They rise so fast that most gunners have a tendency to shoot underneath the duck.

Ever Go Duck, Pheasant, Squirrel, and Crow Hunting All at the Same Time?...

Mixed Sneak

By Lefty Kreh

JIM RUARK is an Eastern Shore hunter from Maryland. Ducks and quail are the only birds that fly in Jim's opinion, particularly ducks. The Chesapeake Bay has been famous for its duck hunting for centuries, and although it was midseason for web feet, Jim and I were speeding away from the Bay and our destination was a small stream in Pennsylvania—our quarry—ducks.

I had promised Jim duck hunting thrills that he had never had before on the Bay, and more than that, almost a sure bet that we would fill our limits of tasty black ducks and mallards. Sure he was skeptical. And why not I thought, as I recalled Jim's comment that he had never heard anyone from Pennsylvania brag about the duck hunting up there. In fact, Jim had often acted as guide for men from Pennsylvania who came down to Bay country to hunt.

Jim followed my car as I drove north toward Carlisle and the nearby stream, the Conodoguinet Creek. He parked his car near an old covered bridge just north of town. Transferring his gear to my station wagon, he hopped in and we traveled upstream several miles by road.

"Do you mean that we're going to hunt on that dried-up little creek?" Jim questioned me.

"You bet we are," I answered. "Did you notice that the water was muddy and the creek running a few feet above normal?"

"Sure, but what difference does that make?"

"It makes the difference between getting our limits of ducks and maybe only taking one or two of those smart

mallards or blacks. You'll see what I mean when we get on the water," I replied.

We pulled up to the old bridge, parked, untied the canoe and carried it down to the water's edge. The dirty, brown creek gurgled swiftly by us in the darkness. Jim brought down the two special shooting chairs that we use when sneak boating for ducks. These special seats are placed right on the bottom of the craft. They are chairs with a back and seat but only four big rubber stoppers for legs. The entire seat is only inches off the canoe floor.

I use an aluminum canoe and remove one of the regular seats during the ducking season. I place the special chairs on the floor of the canoe, one in the very rear, the other about four feet from the bow. These chairs offer two big advantages. First of all, because the hunters sit very low in the craft the center of gravity is just about at the water's surface. This makes it next to impossible to upset the canoe.

Secondly, sitting that low you offer practically no silhouette to the ducks as you drift downriver. It's surprising how well you shoot from one of these stable seats too.

Jim brought down our guns, shells and sandwiches. I went back to the car, picked up our thermos bottles of coffee, locked the station wagon and returned.

Using my knife, I began to cut some dried foxtail grass and brown, dried vines from the nearby bank. I carefully placed this grass along the top edge of the canoe. A few short oak limbs, still holding their dead leaves, were tied in the front and middle so that both hunters could be hidden by them. Oak makes a fine screen for this because even in the dead of winter the limbs will still have leaves. Some gunners place too much trash on their boat or canoe and it resembles a floating island. Not only does this huge pile of debris alarm ducks, but, too much trash makes the craft hard to handle.

Dawn was just beginning to lighten the eastern sky and Jim was anxious to be off. "Wait about 15 minutes, the light is uncertain and these ducks are tough enough to hit—even when you can see them well," I explained.

He settled down on the front seat and remarked how comfortable it was. A foam rubber kneeling pad made it even more enjoyable. I waited a few minutes and then shoved off. I checked to see if the spare paddle was lying in the canoe where I could grab it quickly.

The man in front has most of the gravy in such gunning. He simply sits there and shoots. He doesn't paddle since this would alarm the ducks who would easily spot such movement.

The stroke used by experienced sneak boat gunners is called a chain stroke. The paddle is drawn back as you would in a normal stroke. Then, rather than lift the paddle from the water, the blade is turned to the side and pushed forward through the water like a knife blade. When the paddler moves the blade forward as fast as he wants, he turns the paddle to the correct and normal position and pulls it back in the conventional manner. The upper hand acts as a pivot and hardly moves; all the motion is accomplished with the lower

THIS GUNNER SMILES as he thinks of the tasty meal these three ducks will make for him. As smart as blackies are, floating for them in a camouflaged canoe or light boat will put many of them in the oven for you.

Photo by the Author





Photo by the Author

A POLE IS ESSENTIAL when moving a boat or canoe over shallow water. A canoe paddle can't get enough water for a decent sweep and the pole is so much easier to use.

hand. Such a paddling stroke allows the canoe to be moved forward easily, with a minimum of visible movement.

We moved down the river about half mile, as silent as the drifting fog around us. A small island came into view. Easing along the left side of it, I quietly paddled the canoe along the shore.

A heart warming roar, like a noisy covey of grouse flushing, startled Jim, who quickly turned and brought his gun to his shoulder and fired. He swung the gun to another duck and I yelled "No, don't shoot!"

Lowering the gun, Jim turned and asked, "Why did you yell to stop? I could have taken another one I'm sure."

"They were wood ducks, Jim, and you're only allowed one in your daily limit," I explained.

"Heck, you know we see so few of those woodies down on the Bay, that I really didn't realize what they were until now. You're right," Jim answered, as he picked up the beautiful drake from the water.

"Did you notice how those ducks were sitting back in the brush at the end of the island," I asked Jim, who nodded his head yes. "Well, that's why I like the river to be up two or three feet above normal. When the creeks are running full, drifting logs, small limbs and the swift current make it tough for ducks to sit out in the middle of the stream," I went on.

"When the river is low, you have to keep the canoe in deeper water, away from the banks, and with ducks sitting in the middle of the calm ponds, in the center of the creek, you almost always are spotted by them before you get within shotgun range. But, high water keeps them back in the brush against the banks, and if you stay in close, you often get within five yards of the ducks."

"Let's move on, I'm sure there are some blacks around, I saw some here last summer when Gene Utech, Cumberland County District Game Protector, and I fished this area for bass." Not too far downstream Jim and I saw a black swim out from the bank about 100 yards distance. It stretched its head high, looked alertly in our direction and with a "quack-quack-

quack" of alarm, leaped from the water. Ten more came rushing out of the bushes and up into the sky. Jim was disgusted, but, I consoled him. "Don't worry, Jim, we'll get another chance."

The fog had lifted by now and we could see well. I noticed some small waves coming from the quiet water near a patch of willows just downriver from us. "Jim," I whispered excitedly, "those waves are generally made by ducks paddling around. Get set!"

The ducks were on our left and as we came abreast of them, more than a dozen mallards and blacks sounded their alarm cry and jumped straight up as they tried to climb away from us. These puddle ducks can get into the air so quickly because they lay their wings right down on the water and push themselves up much as a man would do a push-up exercise. They rise so fast that many gunners have a tendency to shoot underneath the duck.

I quickly pushed the canoe to the right with the paddle then threw it in the river. Grabbing for my gun I heard Jim's boom twice as I picked out a shiny greenhead drake and fired. The duck lost enough feathers to stuff a good-sized pillow, but kept going. I pumped quickly, fired again and he came down with a satisfying splash.

Used Spare Paddle

Reaching for the spare paddle on the canoe floor, I pushed the canoe toward the three dead ducks we had knocked down. Jim was smiling like a Halloween pumpkin. "Man, that was great. I never realized you could get that close to a black duck. This beats Bay hunting any day," he exclaimed.

"Let's stop for coffee and a sandwich," I suggested. Moving the canoe over to a grassy bank, Jim stepped out and pulled the craft up on solid ground.

I sat down against an old white



Photo by the Author

A DOUBLE GRAY SQUIRREL hit was made by this gunner. Here he brings the bushy-tails back to the canoe where he will put them into a bucket or can to keep them dry.

oak tree that was defying winter and still clinging to the branches were some of the leaves, dry now, they rustled in the soft breeze and each leaf refused to fall. Crows were worrying an owl upriver and nearby a farmer's dog barked for his breakfast. It was a moment I savored with pleasure, everything seemed just right.

Jim walked around and I listened to him singing praises about this type of hunting. He suddenly stopped and turned toward me, "Say what gives, I haven't seen any other duck hunters today? What's wrong?"

"It's a funny thing Jim. Down in Maryland I see trout fishermen come from Pennsylvania to fish Big Hunting Creek, near Thurmont, and several other mountain streams. Yet, in their own state are trout fishing places that would put ours to shame. Why just a couple miles from here is the Letort, a limestone stream. Without a doubt, the most fascinating trout creek I've ever fished in this country or Canada. But, local anglers pretty

much ignore it—and it has plenty of big brown trout too.

"Pennsylvania hunters don't seem to go much for duck hunting. I think most of them feel there are really not many ducks to hunt. Some hunting is done by those living on the Susquehanna, Delaware, the Allegheny and other large river systems, but most of this is decoy type shooting.

The Very Best

"Sneak boating along these small creeks with a canoe or light boat is absolutely the finest kind of duck hunting, and I've never made a trip that I didn't get some ducks. That's something you and I can't say for decoying," I grumbled.

"For some strange reason most of these Yankee hunters have never tried sneak boating or duck hunting. They kinda figure it isn't worth it. Yet, the hundreds of small creeks throughout the state hatch a steady yield of local ducks each year. For my money, duck hunting up here has it all over our Bay country shooting.

"The big river systems, the Susquehanna, Allegheny, Juniata and others have hundreds of small feeder streams like this one we're hunting today, entering the big rivers. Why the Susquehanna," I went on to explain, "has enough excellent streams entering the several branches of the river to keep a real sneak boat shooter busy and happy for many seasons."

We put away the thermos bottles and removed the grass from the canoe. I pointed out to Jim that we like to paint our canoes a dirty brown color that corresponds to the muddy water we float upon. Bright shiny canoes and those painted brilliant colors make it much harder to approach the sharp-eyed ducks.

"How would you like to get a pair of pheasants now that we have our ducks?" I inquired.

"Suits me fine."

"Just down river is a piece of good cover that is about half mile from the nearest road. I asked the farmer a few weeks ago if we could hunt there and he gave me permission. It's far enough from the road that we should get in some good shooting."

Jim and I hunted until about noon in excellent cover near a field of standing corn and both of us collected a pair of heavy, beautiful cock birds.

We walked back to the canoe and Jim asked if I would take his picture while he held his pheasants. Jim has killed plenty of ducks, but roosters are scarce back home in Maryland and these were the first he had ever gotten.

I removed an old 50-caliber machine gun bullet box from the canoe and took out my two cameras. This is the perfect thing to carry cameras, pocketbooks, other valuables that must be kept dry and safe. The box has a pressure sealing lid that seats on a rubber gasket. I have dropped this box overboard while on the ocean and when it was retrieved, the inside was as dry as an attic. The box is light-proof, an aid in storing film, and you can throw an extra box of shells in the box too. They can be bought at most surplus stores around the state. This one I picked up in Harrisburg.

Still More to Come

After I took several pictures for Jim we shoved off in the current. "We still have about three miles to go downstream to your car," I explained. "And, I have another treat in store for you."

By this time Jim was singing praises of Pennsylvania, the canoe, and the wonderful hunting he was enjoying. "You mean this trip isn't over yet? What else are we going to do?"

I pointed to the bank and said, "We're going to get a couple squirrels so your wife can make us some of her special stew when we get back home."

Jim had hunted bushytails for

years, but never from the water and he missed three of the shifty grays before he finally got his first one. We collected four more and we saw several others too far back in the trees to try for. Rounding a bend in the stream I saw the old covered bridge ahead and really hated to see the trip end.

It took only a few minutes to unload the equipment and put the canoe on the car carriers. As we drove back upriver again to my station wagon, Jim thanked me again for the trip.

"I do a powerful lot of hunting," Jim said as he smiled and shook his head, "but this duck, squirrel, pheasant trip we made today in your canoe was the most hunting fun I've ever had."

"Well, if we had more time, we could have included something else in our bag today. I'm talking about crows," I said, as I pointed to a big flock sitting in the trees along the bank of the Conodoguinet. "Crows love to feed and fight along these small waterways and a good caller can float, stop about every half mile or so along the creek, and really have some fun. Fact is, I'd rather hunt crows than any other bird; and floating and calling them into your gun is the most exciting way I know of."



Photo by the Author

FLOATING AND LOOKING, whether it's at squirrels, pheasants, or just the fall scenery, is one of the joys of the "Mixed Sneak."

On the drive back to Maryland I thought of the meeting I had attended not too long ago. Sportsmen at that session argued among themselves that there was no hunting left in the eastern United States to speak of. In just a few short hours, floating a small stream in one of the heavily populated states of our country, Jim and I had enough shooting to satisfy most any normal gunner. All it took was a second look around and a simple but different approach to the old hunting game.

GAME LAW PROSECUTIONS UP 141 OVER LAST YEAR

More than 1,000 Game Law violations have been prosecuted by Pennsylvania Game Protectors during the first eight months of this year, an increase of 141 prosecutions over the same period last year. T. F. Bell, Chief of the Game Commission's Division of Law Enforcement in Harrisburg, reported recently that prosecutions through August totalled 1,080 with the total fines collected amounting to $38,556.26. During the same period in 1961, prosecutions totalled 939 and fines amounted to $31,216.05. He also expressed concern over the number of violations involving the illegal killing of deer, especially during August. Bell said, "Last year, August prosecutions involved 83 violations but this year, 118 violations have already been reported and we anticipate receiving a few more reports on cases still unsettled. Although not all of these cases involve deer, reports received in Harrisburg show a definite increase in the number of deer illegally killed during August which is unusually early for this type of violation." Bell issued a warning that all Game Protectors have been alerted to these serious violations and stated that extra patrols have been ordered to apprehend "spotlighters" and other illegal deer killers.

There Is Always That Split Second When the Shot Is Better Than at Any Other Time . . .

Critical Moments

By Archibald Rutledge

A FRIEND of mine once told me that his girl turned him down cold because he proposed at the wrong moment. She never did marry him. Well, this whole business of timing a thing right is critical . . . whether it be making love, or offering a bill in the legislature, or making a historic shot. Because I am no statesman and because my ignorance of love in all its forms is complete, suppose we limit ourselves to a consideration of timing in hunting.

It seems that there is always a right moment for shooting at wild game . . . supposing, of course, that it is within range. And I don't mean two or three minutes; I mean *one.* There is a critical moment when you ought to shoot. At all other times your chances of killing are smaller. Naturally there are exceptions, but this general rule is a good one; and some of the most flagrant misses that these eyes ever beheld occurred because of a disregard for timing.

Very often timing depends on the hunter's perfect understanding of distances, and at the same time a comprehension of what his gun or rifle



can do. No hunter deserves to kill anything if he empties his rifle before the game comes within good range.

If I were a hunter and did not know the exact effective range of my gun or rifle, and did not know the exact meaning of fifty, seventy, and a hundred yards in the woods and the fields, I'd set about earnestly learning these things. Most shotguns of ordinary gauges have effective ranges of from forty to sixty yards. Bogardus, the great old authority, used to say of shotguns, "After forty yards, uncertainty begins." Game may occasionally be killed at a hundred yards, but that, while easy with a rifle, is pure luck with a shotgun. I rarely shoot at any kind of game that is more than sixty yards away.

For nearly 35 years I lived in the very beautiful Cumberland Valley in the Keystone State. I hunted whenever I could; and I have priceless memories of my experiences in those fields and in those wild mountains. I came to know well Path Valley, clear northward to "the blue Juniata." I knew Mt. Parnell, Bear Valley, and the Little Cove. Occasionally my forays as a hunter took me as far east as South Conodoguinet and the Yellow Breeches flow.



My very first friends made in Pennsylvania were sportsmen; and a lot of my free time was spent in exchanging with these hunters the experiences of our outdoor life. It was only occasionally that I had reason to doubt anything these woodsmen said. However, when one told me that he had killed a 10-point buck at 300 yards, running at full speed, I doubted if he knew what 300 yards really meant. An ordinary man could hardly *see* a running deer at 300 yards through moderately thick timber. Despite the wonderful effective range of a high-powered rifle, it is a fact that most deer in the forests of the North are shot at distances under 100 yards.

I am going to give some examples of mistakes which I have seen hunters make in timing.

"This is a buck stand," I whispered to a hopeful young hunter recently as I stood on an old road by the edge of a swamp. "And don't forget that a wary old buck has a way of slipping out a long way ahead of the drivers."

I left him to take up my own stand about three hundred yards away.

Hardly had I reached my stand when I heard him shoot once. Thinking that the hounds would soon be on his deer and that I had better get them and put them back in the drive, I drove back to where I had just left him. There he was, standing in the road, a puzzled expression on his face. I asked him what had happened.

"You had hardly left me," he said. "I was sitting here, with my rifle across my knee. I was looking down. When I looked up, a 10-point buck was standing right there across the road from me." The distance was about thirty feet. "I did not know what to do. After a minute he made me out, whirled, and ran back into those thick pines. I shot at him then."

Now, the critical moment in this case was the moment during which

the deer was trying to make him out. After the deer had whirled and run, it was too late. Thus, mystery, not history, was made.

No deer hunter on a good crossing, should be looking at the ground. Deer have no subterranean habits. If this hunter had been looking up, he would have seen the buck coming possibly a hundred and fifty yards off; he would then have had time to get his rifle up unobserved, and the minute the buck stopped he could have killed him. History could have been made in that minute . . . but not later.

Stops at a Road

Regarding the timing on deer, it is surprising, especially if the crossing is on a road, how often the hunter can make a standing shot if he gets ready for it. Unless he is badly frightened or is very hard pushed, a buck almost invariably stops at a road to reconnoiter. Therefore, post yourself so that you are within easy range of where he is likely to stop.

Much of the success of hunting comes from one's ability to calculate the critical moment and from the stern self-discipline of waiting for it. Most game is missed because it is shot at too soon or too late.



IN WAITING FOR A WILD GOBBLER be sure you get him in the right position before you shoot.

When I was younger and could stand the nervous strain better, I used to walk up and kill a good many bucks in the level pinelands of the South. One of my hunting comrades was Dan, the most nonchalant woodsman I ever knew. Dan was a great chewer of tobacco. One day we walked up a huge stag, and it was his turn to shoot. To my amazement, while the buck was furiously storming out of the huckleberry bushes, Dan calmly rid himself of a long stream of tobacco juice. Then he put his rifle up and made a perfect shot.

"You took your time about it," I said, half aggrieved at the long chance he took.

Dan's answer should be valuable to every hunter. "When a buck first gets up," he told me, "he will likely cut some capers. I always like to let him get those out of his system before I shoot."

On one occasion I posted a deer hunter where the bushes somewhat obscured his view. It was a good place; but as he was short of stature, he could not survey the country properly. Just after I left him, he climbed up on a stump. In doing this he made some racket, and this noise had an unexpected effect. This scene is indelibly imprinted on my mind.

I saw the hunter standing on the stump. I heard a terrific rip out of a smilax-canopied bay bush. Then I beheld, racing past the hunter, a buck that we had been after for many years. We called him the Blackhorn Buck because of the color of his huge antlers. I have seen between six and seven thousand deer in the woods but this stag was the largest. While he got up in a thick cover, he would have to cross an open place before the darkness of the swamp ahead hid him from view.

My friend on the stump had the chance of a lifetime. But he shot at the buck the minute he saw him. He not only did that, but he pulled both triggers at the same time, so that the



EVEN THOUGH YOU MAY NEARLY STEP ON HIM, the grouse's hurtling and often inconstant speed makes it essential for you to move quickly and accurately.

gun kicked him clear off his eminence. A moment later the Blackhorn crossed the open space, running far more smoothly than when he had first been started. From the stump the distance was not more than thirty yards!

In hunting, the critical moment is when the game gives you the best chance. If my friend had waited for just about three seconds, he would have had a ridiculously easy shot at the greatest stag I ever saw in the woods. His antlers looked to me to carry sixteen points.

Of course, there are circumstances in which a hunter has to shoot fast; the first moment may be the critical one. Especially is this true in hunting the grandest bird of them all . . . the ruffed grouse. This prince of the woodlands has no low or second gear. He always gets away in high; and as he is likely to be found in brush, and as he has a wily habit of putting the first convenient obstruction between himself and the hunter, it takes not so much wild haste to get him as deliberate speed.

If a bird flushes well within range, there probably will be a moment when you can get him. But you must be ready, and you must get your gun on him. Such is his hurtling and often incontinent speed that even though you may nearly step on him, he will be in flight but a few seconds within range.

I had a friend who loved to hunt grouse, and he would shoot at every one that roared up in front of us. I do not recall ever having seen him kill one. He usually shot one barrel into the patient ground and the other into the empty air. Indeed, many a hunter thinks that he has performed his part if he pulls the trigger . . . forgetting the somewhat vital detail of aiming, and the more vital one of timing.

In shooting quail and grouse in the brush, the critical moment may well come just as the bird rockets through an opening. While it is essential to keep one's eye on the fleeing bird, one should also look out for likely openings, for in such places the winged fugitives will expose themselves for an instant. To wait or not to wait . . . that is the question.

Position Is Important

In waiting for game to get just where you want it, there may be advantages other than the mere business of hitting it. A real hunter likes to get a deer, for example, not only within range, but in a certain position. A head-on shot is always hard, as is one going straight away. A broadside affords a target at least four times as big, and more vital places are exposed. While it is not possible to do so with smaller game, with larger game a hunter should aim for a vital place, such as the head, the neck, the heart, the spine.

A really good hunter does some fast calculating when game is within sight. In waiting for a wild gobbler to come to you, it is critical that you should get him in the right position. You don't want to shoot him in the breast. The head is all right if you get him close enough, but he can jerk that head about so fast that while you are pulling the trigger he will probably

be moving it. If you shoot at him broadside, you will likely break one wing; and if he is not otherwise mortally wounded, you might as well give him up. Even a wild turkey which is so wounded that he eventually will die can outrun a race horse. I have done some long waiting to shoot a wild gobbler in the back. However, if he is passing by in flight, I never try to shoot at him straightaway, but always broadside, leading him from one to two feet. Although he is often clumsy in taking wing, once he has acquired his momentum, he goes like a plane.

A Distance Flyer

Lately some well-known ornithologists took me to task for saying that a wild turkey can fly a mile or more. They told me that this bird is gallinaceous, and that if he flies any distance, he gets all heated up. All I know is what I have seen in the woods; and when I see an old gobbler launch himself out of a hemlock and fly for more than a mile across a river valley, I get the feeling that being gallinaceous doesn't bother him at all.

But coming back to timing, I remember an extraordinary mishap that I witnessed one day. We were deer hunting, and I had posted a hunter in the open woods by the wreck of an old wire pasture fence. Only the posts and one strand of wire were standing, and this wire was about three feet from the ground. As I was the next stander, I had a perfect view of the whole tragedy.

A heavy-antlered buck came out of the deep river-swamp, and was choosing a course that would make him cross the wire about thirty yards to the left of the stander. I watched the stander get his gun up. He could do one of three things: shoot as the deer got to the fence, shoot as he jumped, or wait until he hit the ground on the other side before firing. If you are going to shoot a deer near a fence or any other kind of obstruction, you have to be careful. My own idea is that a hunter can never be absolutely certain what a deer will do, especially a buck. If we could predict every move, the whole race of deer would soon vanish. When a running deer meets an obstruction, he is liable to do something that will fool you.

Curious as to what was going to happen, I watched carefully. The hunter aimed for the space above the fence, but had too rigid a grip on his rifle. He was going to take him on the jump. But the buck, sneaking out as he was, didn't jump, but ducked under the wire, tall horns and all! My friend pulled the trigger anyway, blasting the empty air. Disconcerted, he missed with the second shot also. He had aimed where the deer should have been, but the deer wasn't there.

Looking back over your experiences as a hunter, probably you have, as I do, some gloomy recollections of ignoble misses. I wonder if we did not make mistakes in timing. Perhaps we were caught off guard, and as a result we did not have time to calculate what the critical moment for the shot would be. We must have fired too soon or too late. It takes a sure understanding of your game, a knowledge of what your gun can do, and considerable presence of mind in such a crisis to determine just when to fire. At such a moment comes that "tide in the affairs of men which, taken at its flood, leads on to fortune." It applies to all activities of life, but perhaps nowhere with the same force as in hunting.

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It's Now or Never
For Wetland Acquisition . . .

New Steps Toward Wetland Preservation

By W. R. DeGarmo
U. S. Bureau of Sport Fisheries and Wildlife

PENNSYLVANIA, a land of mountains and gently rolling hills, has never been known as a great waterfowl state, yet each fall and spring thousands of ducks and geese cross its borders. During summer months many remain to nest along the rivers and streams and in other suitable locations. Although the acreage of the wetland areas so necessary for waterfowl is comparatively small in the Keystone State, that which exists is of great importance.

In Pennsylvania, and indeed in all of America, the heritage of wild migratory waterfowl is in jeopardy. Rapid exploitation of our remnant marshes, essential to the existence of waterfowl, means that the birds themselves will be lost forever unless greater steps can be taken to preserve the wild areas they need for food and shelter.

Throughout our nation man is increasingly remodeling the face of the earth. Bulldozers, draglines, dredges, and trucks swarm over marsh, swamp, and swale, filling here, dredging there, creating sites for factories, homes, and highways. Marshes continue to be dumping grounds for trash and garbage; and pollutants, including mine waters, turn streams into open sewers. This might be called the turning of the wheels of progress; some of it is necessary, but much of it is not in harmony with a planned and balanced development of man's environment.



Fish and Wildlife Service Photo
A SYMBOL and the real thing. Both represent the wetland preservation program and National Wildlife Refuge areas.

Where once there were 127 million acres of marshes, bogs, swamps, potholes, or other "wetlands" in the United States, less than 74 million remain. With all this loss of places in which to nest, rear their young, feed during migration, or spend the winter months, waterfowl numbers have



Fish and Wildlife Service Photo

POLLUTION IS A MENACE to streams and wetlands. This shows paper pulp wastes being dumped into a stream in one of the southern states.

dwindled. The challenge must be faced. If waterfowl hunting is to be preserved as an American tradition immediate and drastic measures are now essential.

A growing public awareness of the need to preserve our wetlands has been marked by a number of milestones. The Migratory Bird Treaty Act of 1918 assigned to the federal government primary jurisdiction over the protection of migratory birds, including waterfowl. This was followed in 1929 by the Migratory Bird Conservation Act which provided the authority and funds for the establishment of migratory bird refuges. The first waterfowl hunting stamp (at a cost of $1) was required by the Migratory Bird Hunting Stamp Act of 1934 to help finance the refuge program. The Federal Aid in Wildlife Restoration Act (Pittman-Robertson) of 1937 made it possible for many states to start programs of wetland acquisition and development. In 1949 an amendment to the Hunting Stamp Act raised the price of the "duck stamp" to two dollars; another in 1958 increased it to three dollars, and specified that duck stamp funds must be used exclusively for the purchase of waterfowl production areas and other wetlands suitable for migratory bird refuges. The Act also provided that as much as 40 per cent of a refuge may be opened to the hunting of migratory game birds.

In spite of the additions to the federal and state refuge systems which resulted from these efforts, wetland destruction continues at an alarming rate. In recognition of the growing problem, Congress last year passed a bill which has come to be known as the Accelerated Wetlands Acquisition Act (Public Law 87-383, approved October 4, 1961). This act makes possible the stepped-up purchase of essential wetlands now, while they still exist, with expected income from the future sale of "duck stamps." In effect Congress would loan the conservation movement $105,000,000 which, with the current revenue from duck stamp sales, could be used for wetlands preservation. This money is to be used ". . . to promote the conservation of migratory waterfowl and to offset or prevent the serious loss of important wetlands and other waterfowl habitat essential to the preservation of such waterfowl. . . ." At the end of seven years, 75 per cent of each year's duck stamp revenue must be used for repayment of the loan.

Action Is Imperative

The task is obvious—we have what remains of the seven-year period in which to save at least an essential minimum of the nation's wetlands. Action is imperative!

The present goal envisions a total of 12,500,000 acres of wetlands in public ownership, the minimum acreage needed to maintain our waterfowl numbers at or near levels of those of the 10-year period 1948-1957. Present federal and state areas total five and one-half million acres. Acquisition by the Bureau of Sport Fisheries and Wildlife will add an additional four and one-half million acres of waterfowl habitat, and the states are working toward a goal of another two and one-half million acres.

Lands purchased by the federal government for waterfowl management will, for the most part, become additions to the national wildlife refuge system, which had its beginning nearly 60 years ago when President

Theodore Roosevelt established our first national wildlife refuge on Pelican Island in Florida.

A Cooperative Effort

Work is now under way by federal biologists, engineers and real estate specialists, studying wetlands and selecting those which should be in public ownership. Special care has been taken through consultation with representatives of state fish and game departments, the Atlantic Waterfowl Council and the Coastal Wetlands Council to be sure that all interested groups are working together.

Once an area has been selected, its purchase by the Bureau of Sport Fisheries and Wildlife must be approved by the Governor or the state fish and game agency of the state in which the land is located. Then follows a series of critical evaluation studies, first in the Bureau's regional office, then in Washington. The final step, prior to actually starting purchase of an area, is approval in Washington by the Migratory Bird Conservation Commission. This Commission is made up of two Senators, two members of the House of Representatives, and the Secretaries of Interior, Agriculture and Commerce.

Purchase, whenever possible, is by direct negotiation for fee simple title. Condemnation is used only when absolutely necessary to protect the objectives of the program or to clear title to the marshes being purchased.

It is seldom that a marsh, bog or swamp cannot be made more attractive to wildlife. Improvements to acquired wetlands are made as money becomes available. Dams or dikes may be built to hold or regulate water, grain may be planted for food for ducks or geese, or low-level pumps may be installed to furnish water during dry summer months. In many instances, particularly in Pennsylvania, poorly-drained land may actually be made into good waterfowl habitat with the installation of dams or dikes. Timber from wooded areas must usually be cleared prior to flooding.

A Growing Concept

Varied use is a growing concept of management on national wildlife refuges. Preservation of habitat and protection of wildlife are the two dominant objectives. Recreational activities

MARSHLANDS LIKE THIS MUST BE ACQUIRED and developed in the very near future if we ever hope to maintain our waterfowl hunting recreation. Duck Stamp revenue will provide the money to carry on this program.



are possible when they do not materially interfere with a refuge's primary purpose. Up to 40 per cent of a refuge may be opened to hunting of migratory game birds, or hunting of upland or big game may be permitted over an entire refuge. Fishing, enjoyed on many refuges, may range from trout to striped bass. Nature study, particularly bird watching, is enjoyed by increasing members of outdoor enthusiasts. Schools use refuges as outdoor laboratories. Swimming and boating are often possible, as is picnicking. Timber stands on refuges are managed by application of sound forestry practices. Trapping of fur animals is carefully tied to the waterfowl management needs of refuges. Of particular concern are muskrats, since they are important in the control of such vegetation as cattails. Trapping under special use permits is, however, a part of the refuge program.

Little Loss in Pennsylvania

As previously stated, the acreage of natural wetlands in Pennsylvania is small when compared with the size of the state. In 1954 a wetland survey by the Bureau of Sport Fisheries and Wildlife and the Pennsylvania Game Commission showed there were approximately 69,000 acres of wetlands in the state. Shrubby and wooded swamps were the dominant wetland types. This same survey indicated that, fortunately, there has been little serious loss of true wetlands in Pennsylvania through drainage or fill. In cases such as the Tinicum Marshes in Delaware and Philadelphia Counties, losses have occurred adjacent to expanding communities or industrialized areas.

There are three regions of Pennsylvania which are particularly important to waterfowl. These are the three northwestern counties—Erie, Crawford and Mercer; the Delaware River Valley; and the Susquehanna River Valley. It is surprising that along the latter, in spite of its relatively heavy use by migrating waterfowl, there are few natural marshes.

The northwestern corner of Pennsylvania is of interest to those engaged in the broad field of water resource management. Here are opportunities for integrated plans for the creation of waterfowl habitat, fishing waters, flood control reservoirs, state park developments, and public hunting areas. Streams such as Sugar Creek, French Creek, Conneaut Creek, Shenango River, and Conewango Creek, offer many possibilities for use of stored water for a combination of purposes.

A Good Example

Pymatuning Reservoir has long been a prime example of what man can do to create waterfowl habitat where little previously existed. Development by the Game Commission of eleven small marshes on State Game Lands No. 69 on Sugar Creek is another example of the potential of this region. The Conneaut Marshes are a combination of natural and man-made marshes, developed and maintained by the Pennsylvania Game Commission.

Ten miles east of Meadville on State Route 27, in the valley of Lake Creek and Woodcock Creek is the Erie National Wildlife Refuge, the only one in Pennsylvania. Relatively new, development on the approximately 4,700-acre area has not yet begun. Ultimately it will provide habitat for migrating and breeding waterfowl. Purchase of the lands which will comprise this refuge is still in progress.

Many interests are at work in Pennsylvania in behalf of wetlands and wildlife. The Game Commission, the Fish Commission, Soil Conservation Districts, Boards of County Commissioners, Department of Forests and Waters, Department of Highways, townships and boroughs are participating in planning programs under the Watershed Protection and Flood Prevention Act, better known as Public Law 566. At least three projects are planned for northwestern Pennsylvania—Mill Run, Sandy Creek, and Little Shenango River. Wherever possible, fish and game benefits become a part



Fish and Wildlife Service Photo

TO CREATE OR DESTROY wetlands, that is the problem we face now. To destroy will mean the end of public waterfowl hunting as we know it in America today.

of the design for these projects.

Municipal interest is reflected by the establishment of the Tinicum Preserve by the City of Philadelphia, urged on by one of the nation's outstanding conservation organizations, Philadelphia Conservationists, Inc.

What are the federal wildlife conservation plans for Pennsylvania? The federal program is designed to supplement the Game Commission's program of wetlands purchase and development. One of the Game Commission's objectives is the development of the waterfowl complex of western Pennsylvania. Additional acreage in the vicinity of the Erie Refuge is needed to fulfill the federal responsibilities in this area. Still under study are areas on Wolf Creek in Mercer County, as well as of others on Little Sugar Creek, Muddy Creek, and Conewango Creek, all in Crawford County.

There are important, though small, marshes along the entire length of the Delaware River. In addition, there are important waterfowl flight lanes crossing this section of the state. Many birds seem to break away from the Hudson River near Kingston, N. Y., to move southward to the headwaters of the Delaware River. National wildlife refuges can deflect and retard migrating waterfowl. A waterfowl refuge and management unit in the Delaware River Valley would fill a definite need for nesting sites. A reconnaissance of these general areas is being planned and will be carried out in cooperation with Game Commission personnel.

The Susquehanna River Valley is in the same category as the Delaware. Migration patterns tie in with Delaware Bay where the Bureau now has the Killcohook and Bombay Hook National Wildlife Refuges in New Jersey and Delaware. The Game Commission plans to purchase two islands in the Susquehanna River, where it already owns State Game Lands No. 233. Federal studies of wildlife potentials in this valley will get under way this year.

Plans, such as those outlined above, are merely paper work without support from the sportsman. Pennsylvanians now have a golden opportunity to help waterfowl in their own state as well as the entire nation. YOU will be helping immensely when you purchase your $3 Duck Stamp available at all post office counters. YOUR money will be invested in waterfowl for the future.

Unless Migrating, Woodcock Do Little Traveling...

The Pennsylvania Woodcock Study

By Steve Liscinsky
Game Biologist

Part III

Movements and Migration

THE extent to which an animal moves about is of considerable importance to the game manager. For example, in the case of a migratory bird such as the woodcock, it is important to know whether or not we are shooting resident or nonresident birds and at what time in the season one or the other is most likely to be present. It is helpful to know if resident woodcock require the same habitat during spring, summer and fall months. To find some answers to the above questions a number of woodcock have been captured and banded by research personnel of the Pennsylvania Game Commission. The results of these studies are given below:



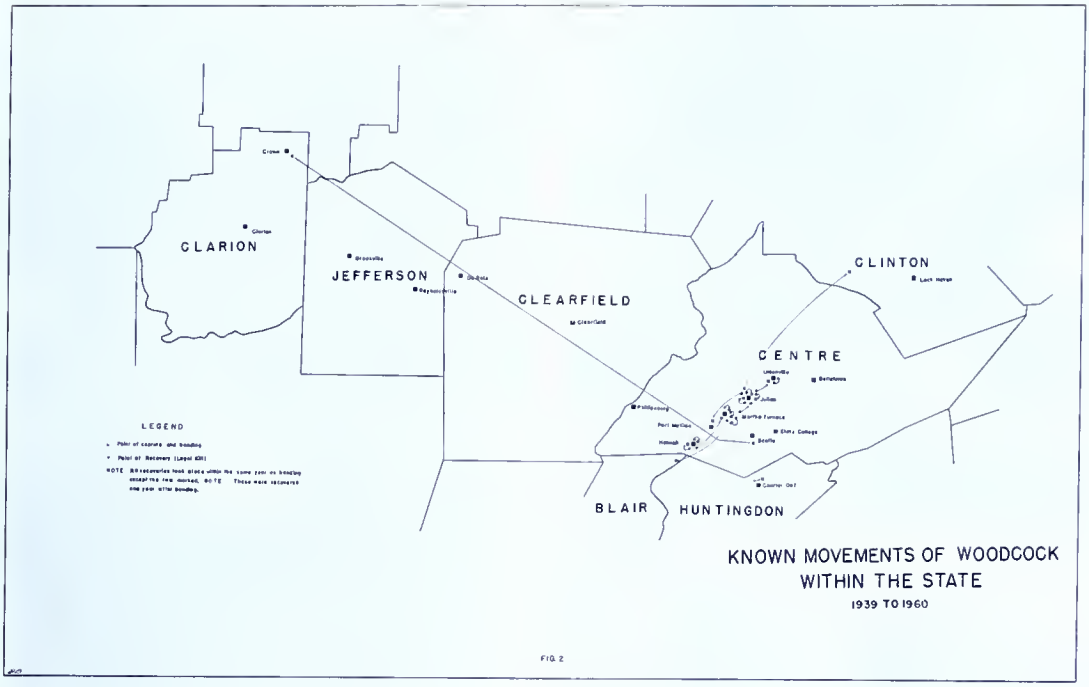
WEIGHTS AND MEASUREMENTS are taken on all birds trapped and banded. Here the author collects data for use in his study of the woodcock in the Keystone State.

Movements

From 1939 to 1960 a total of 239 woodcock have been banded in Pennsylvania; 204 of which were marked during the recent investigations (1952-60). Of this number 48 have been recovered. Twenty-seven of the recoveries were made by trapping and 21 resulted from shooting. Six of the retrapped birds were captured twice and three of the woodcock which were shot were taken outside the state. During this same period five woodcock banded outside of the state were bagged in Pennsylvania.

The distance traveled by these woodcock is indeed interesting. It's amazing how little they travel when not migrating. Of the 45 recoveries made within the state 24 traveled less than a few hundred yards, 12 went approximately one mile, 3 went 2 miles, 2 moved five miles and one each traveled 7, 8, 35 and 80 miles. All but two of the recoveries were made during the same year. An illustrated account of these movements is presented in figures 1 and 2.

Field observations and banding records also revealed that the number of woodcock found in a particular area, or covert, can vary with the seasons and with changing weather. Some areas capable of holding a population



of breeding woodcock in the spring do not support them during the droughty parts of summer and fall. Other areas are capable of sustaining woodcock the year around, except, of course, during the winter months. It would certainly be to our advantage if more was known about their movements and why they occur.

Migration

It is rather common knowledge that woodcock are migratory birds. On the other hand relatively little is known about the details of their migrations. Many have speculated on the time and direction of migrations, on the composition of sex and age of migrant flocks, and on the manner of distinguishing between woodcock migrating across the state ("flight birds") and resident woodcock not yet migrating. Information on these matters is being gathered by several investigators throughout the range of this game bird. To this fund of knowledge the following data, relative to Pennsylvania conditions, has been collected:

Woodcock return to Pennsylvania from their wintering grounds or early as the last week in February. Even in northern Pennsylvania woodcock have been observed during the first few days in March. The bulk of the woodcock, however, do not cross our borders until the last two weeks in March. Migration to and through Pennsylvania is complete by the second week in April.

Of more interest, especially to the bird hunter, is the time that woodcock return to their winter range. The expression "It's later than you think" may well apply here. In recent years, at least, the big push has occurred during the last week in October or the first week of November.

The belief that local woodcock move out before "flights" of more northern birds across the state has been disproven. Banding returns show that resident woodcock are bagged throughout the hunting season, the same time that migration is in progress. Most of these banded resident woodcock were bagged within a few hundred yards of the point of capture.

Occasionally native birds, especially in the northern tier counties, move to new locations (relatively short flights)

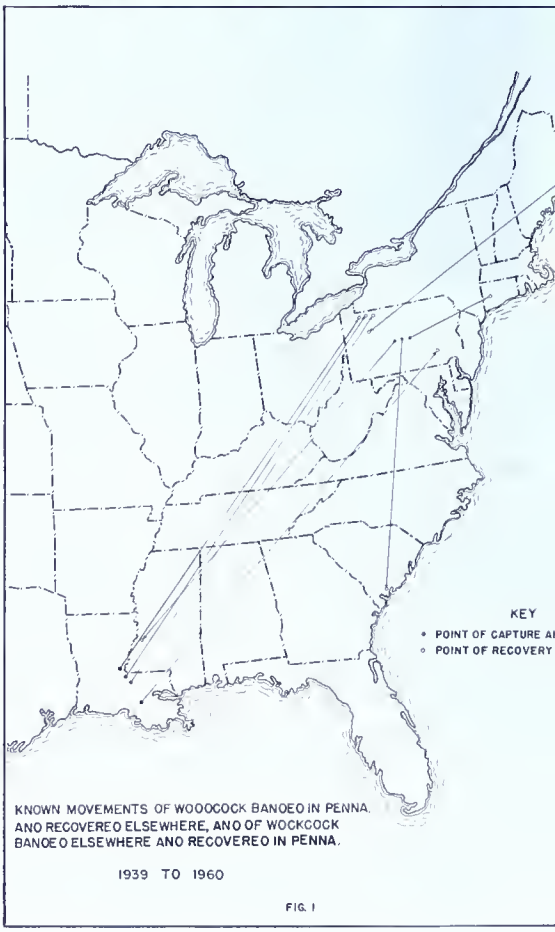


WOODCOCK BANDING is the chief source of information used to acquire knowledge about the birds' movement and migration. Here author Steve Liscinsky carefully places a numbered band on a youngster.

earlier in October. Hunters finding the woodcock, which sometimes occur in loose flocks, assume that the "big flights" are on. Later, these groupings of local birds, which may be preparing to migrate, are mistaken for nonresident migrants again. And reasonably so—for there is no known way of telling a "flight" woodcock from a resident woodcock by either the plumage, weight, or the manner of flying. It is not safe to differentiate between migrating and local groups by an intimate knowledge of the number of woodcock using particular coverts throughout the season. A sudden influx (15 more birds) in a specific area a day or two after there were none will tell you that a flight group moved in but it will not tell you where they came from. In addition migrating woodcock often stop to rest in localities not frequented by local birds.

Although it is not uncommon to find groups of migrating woodcock (spring and fall) numbering 20 to 30 birds, it is rare that one observes groups numbering over 100. In this connection the largest group of migrating woodcock observed in recent years occurred on November 7, 1955, in northwestern Pennsylvania when approximately 200 woodcock were encountered in one location. About mid-November woodcock become increasingly scarce, and by November 24-25 the fall migration is complete.

Number	*Date of*		*Time Lapse*	
	Banding	*Recovery*	*Years*	*Days*
1	5/10/41	10/24/41		167
2	4/8/40	11/5/40		212
3	1/2/54	10/30/54		302
4	2/3/41	10/21/41		264
5	1/3/52	10/18/52		289
6	5/8/39	12/27/40	1	236
7	12/28/53	11/11/59	5	318
8	4/29/53	2/11/54		300



Not This . . .



Photos by Grant Heilman

SIGNS LIKE THIS are usually erected by farmers who fear for their family, livestock and property. The same end can be accomplished without ringing the farm with "NO HUNTING" signs and keeping everyone out. The Game Commission's Farm Game Cooperative Program provides "SAFETY ZONE" signs to be erected 150 yards from buildings and at the same time provides game to be hunted on the outlying areas of the land.

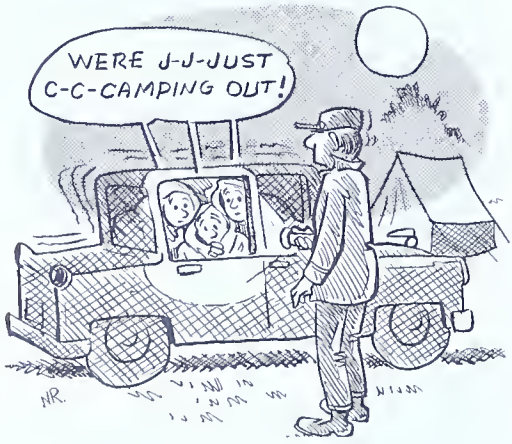
A Pennsylvania Cooperative Farm-Game Project

But This



HERE IS THE KEY to safe and cooperative hunting in Pennsylvania. Those farmers interested in entering this program and among other things receiving a free subscription to GAME NEWS, should contact their local Game Protector or any Game Commission Office.





Crazy Sounds

ELK COUNTY – While on night patrol during the month of August, I came upon a car parked along a back road and near to it there was a tent pitched. As I approached the tent to see where the visitors were from I heard a faint voice from the car asking, "Who are you?" I identified myself and as I approached the car I found three young boys about 16 years of age huddled inside the car in sleeping bags and blankets. Being a nice starlit and warm night I asked them why they were not using the tent. They explained to me that they were from North Side, Pittsburgh, and that this was their first venture at camping in the wilds and that shortly after dark they started to hear the craziest noises and that they could not get to sleep. I told them about some of the noises that owls and other animals make and this seemed to cheer them up some so they replaced their blankets, etc., in the tent. As I left the scene they seemed contented in the tent. Several hours later I came back the same way and there they were, three heads peeking out of the car!—District Game Protector Fred H. Servey, St. Marys.

Wildlife Cooperation

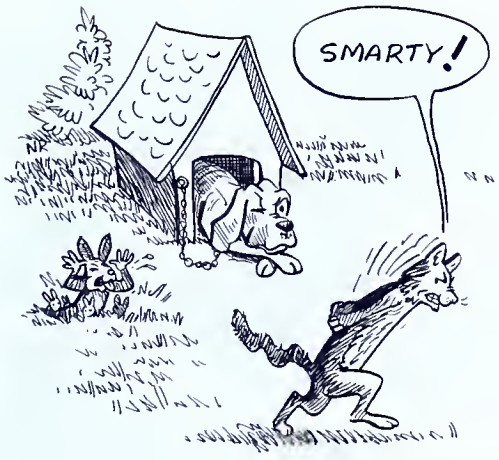
ROSS LEFFLER SCHOOL OF CONSERVATION—While out on field work I observed one of the many ways that some of nature's animals unknowingly help each other obtain food. I saw two small fawns feeding under a large oak tree, but I couldn't see any food on the ground for them to eat. Then upon hearing a rustling in the oak tree I saw a gray squirrel cutting acorns for his winter food supply. As fast as the acorns would fall to the ground the fawns were eating them. Whether or not the deer thanked the squirrels I do not know, but they should have.—Student Officer Hans P. Goedeke.

A Field of Racks

PERRY COUNTY—One often sees deer when afield, and many times two or three bucks together. One Sunday morning while checking fox traps I saw something unusual. Six deer were together in one pine field and all of them were bucks. All had racks anyone would be proud to own.—District Game Protector Jacob Sitlinger, Newport.

Turkeys Delay Plane

JEFFERSON COUNTY—Early this month, a flock of 14 wild turkeys delayed the flight of an Allegheny Airlines plane briefly at DuBois, Jefferson County Airport. The pilot was about to take off when the flock was spotted walking across the runway. He delayed his take-off until the birds wandered into the nearby fields.—District Game Protector George W. Miller, Sigel.



Watch Dog for Bunny

JEFFERSON COUNTY – Recently I visited a farmer, Blair Carrier, Summerville, Pa. He said he had something he wanted to show me. He took me to where his beagle dog was tied and a few feet from the end of the chain was a small oval in the ground covered with grass and rabbit hair. Mr. Carrier said the mother had successfully raised four rabbits there. As Mr. Carrier also has cats this rabbit apparently made her nest close to the dog for protection. – District Game Protector Robert Ellenberger, Punxsutawney.

Baby-Sitting Buck

CARBON COUNTY–Deputy Paul Heilman and I were on night patrol in Penn Forest Township, Carbon County, early in the month of August and saw three deer in a food plot on State Game Lands No. 141. They were the only deer in the plot and were all together. The strange part about it was that two deer had racks and the other was a fawn still in spots. The fawn would muzzle the one deer in the flank but it wouldn't stand for it. Possibly this was one of those oddities of nature where a doe had antlers or maybe mom had a night out and dad had to look after junior. – District Game Protector A. Dean Rockwell, Jim Thorpe.

Rabbits Looking Up

CRAWFORD COUNTY – Rabbit conditions in my district look very good. At the Pymatuning Museum on August 6, you could stand in one spot and count four rabbit nests.–District Game Protector Leo Badger, Linesville.

He Came To

LACKAWANNA COUNTY – The following incident was related to me by Deputy Game Protector Michael Badner of Mt. Cobb. On July 1, Mike was called to remove a doe deer that had been struck by a vehicle on Route 590 near Mt. Cobb. Arriving on the scene Mike was assisted by Thomas Janus and the men loaded the deer onto a truck with the intention of taking it to a safe place to dress it out. While removing the deer from the truck it suddenly came to life and began to kick viciously, inflicting a wound on Tom's stomach. Needless to say the men got off the truck body and the deer crawled underneath the truck trying to get away from these madmen. After some real tugging with a rope the men managed to get the deer out from under the vehicle, but not before the animal managed to cause damage to the muffler and tailpipe. The deer walked into the woods and Mike said the deer stopped, looked back, as much as to say, "Next time pick on someone your own size!" –District Game Protector John L. Altmiller, Clarks Summit.



Deer Outlook Good

NORTHEAST DIVISION – From all indications, our deer population has expanded considerably. Much available food has the animals in good condition. We continue to have a high rate of highway kills. Also, had a bear killed by a car recently.–Supervisor Roy W. Trexler, Dallas.

Oil Pollution

BEAVER COUNTY – On August 27, Deputy Game Protector Albert Bogolea of Freedom came across an injured bird at the Conway railroad yards where he is employed. Investigation showed the bird was not physically hurt, but was suffering from exhaustion. The bird was an immature herring gull, which had landed in the Ohio River, and its feathers had become saturated with fuel oil. The oil hindered the bird's ability to float, and it had a hard struggle reaching the safety of the shore. Deputy Bogolea fed and cared for the bird until it got its strength back, then his son released it in a small pond near their home. This is another example of the bad effect of water pollution on our wildlife population. – District Game Protector Harry E. Merz, Beaver.

Water Saver

BRADFORD COUNTY – Due to the severe drought conditions in Bradford County this summer, most of the area streams dried up, some completely. However, most of the beaver dams in my district maintained a sufficient amount of water to give good duck nesting and rearing facilities. In some areas the only water supply available for watering livestock was the "ole beaver dam." So it looks like sportsmen and farmers alike will have to thank "Mr. Beaver" for conserving our local water supply this year.–District Game Protector Richard W. Donahoe, Troy.



Success on First Try

ROSS LEFFLER SCHOOL OF CONSERVATION – Recently, I purchased a predator call and was very anxious to try it out. This was the first time I had ever tried to call a fox and I was a bit skeptical as to what my success might be. Recalling my predator control training on this subject, I picked a well camouflaged stand with a good view of the surrounding area. Just as I was settling down, I startled a buck which trotted away. No sooner had I commenced calling, than I received an answering snort. As I proceeded to call, the snorting sound came closer and closer. I assumed it was the buck approaching out of curiosity. When the "animal" came within a short distance of me, I noticed the snort was more of a rasping sound, much like a person clearing his throat. I lifted my head above the cover to see what it was and 'lo and behold' there sat a sassy gray fox not over thirty feet away! Unfortunately, he saw me and ran away before I could shoot. – Student Officer L. A. Kuznar.

Swift Killer

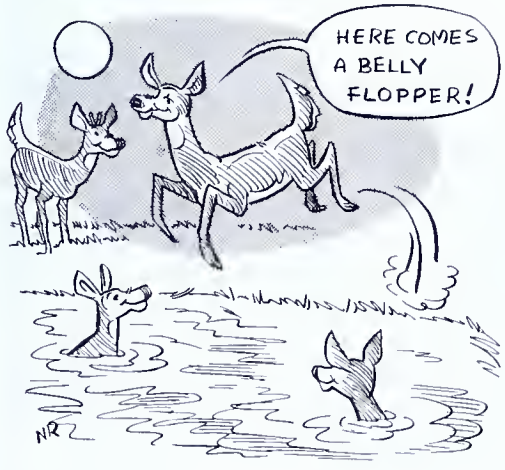
LUZERNE COUNTY – On August 22, an adult mink got into the pheasant pens of Farm Game Cooperator Fred Brighthaupt and this speedy killer wiped out 92 ten-week-old phcasants before he was subdued.– District Game Protector Robert W. Nolf, West Hazleton.

Fur-Clad Coal Miners

CLEARFIELD COUNTY — Recently I received a call from the Palumbo mines at Tyler about beaver damage. I investigated the complaint and found the beaver had built a dam which was forcing the water back into the mines. Also, they had worked a hole through a main air bradish. After looking over the situation it appears to me that the beavers are changing occupations from lumbering to coal mining. — District Game Protector Claude B. Kelsey, Troutville.

Moonlight Swim

SOMERSET COUNTY — The following story was told to me by Mr. and Mrs. Ralph Peck of Fort Hill, Pa.: One night in early June, Mrs. Peck heard a loud commotion in their farm pond. At first she thought it was a raccoon, but after listening for a while she thought that it might be that their horse had fallen in the pond. She got out of bed and looked out the window. In the moonlight she could see ten deer, some of them being young fawns, splashing around in the pond in shoulder-deep water. The flies were very bad at this time, and it is believed that the deer were trying to free themselves of the pests.—District Game Protector Robert H. Muir, Meyersdale.



Mr. Know-It-All

MONTGOMERY COUNTY — Recently Deputy J. Hockel, Horsham Township, called to notify me of the thoughtlessness of a local motorist. On Friday evening, August 17, 1962, Deputy Hockel was called to pick up a couple of road-killed deer on Horsham Pike. When he arrived at the scene of the accident, he found 8-10 autos stopped and a group of angry people with murder in their eyes. They stated that each and every auto was stopped with turn signals flashing to caution all other approaching autos of danger on the highway. And then it happened — one young man, approaching from the rear and in an awful hurry, sped by all cars and ran head on into triplet fawn deer. He barely missed killing the mother. The motorist passed with such speed and to the surprise of everyone, that no one could identify the car or the license plates. What really irked the crowd, was the fact that the motorist did not even stop to see what he had hit. A few mothers could be heard making the remark that he could have been dealing with human life. It is my belief that if Mr. Know-It-All had stopped, or if his license number had been taken, an angry crowd would have certainly increased his doctor and dentist bill and would have taught him a lesson that even a mule wouldn't forget. — District Game Protector E. F. Sherlinski, North Wales.

Bombing Robins

CLEARFIELD COUNTY — A resident of Clearfield called and asked me to come up to his place. The robins were making quite a fuss and he was afraid that something was after them. The truth of the situation was the robins were trying to drive four young screech owls from one of the trees. By evening the owls looked pretty tired from being dive bombed by the robins. — District Game Protector Guy W. Waldman, Clearfield.



Odd Ball

SOMERSET COUNTY — Harvey Miller who lives near Fairhope related that during August he noticed a brown and white spotted deer in his fields on different occasions. Each time he saw it, the other deer in the field would be chasing it. Mr. Miller thinks that the odd color of the deer caused the other deer to molest it. — District Game Protector Edward W. Cox, Somerset.

Hooked Mallard

BUTLER COUNTY—On August 23 I received a phone call from Commissioner Thompson concerning a wild mallard duck on Glade Mill Dam. It seemed that this duck had swallowed a fish hook. Out of the mallard's mouth hung a foot of gut leader and yellow bobber. This hindered the duck's eating and flying. Assisted by Wyndle Watson, Outdoor Editor of the BUTLER EAGLE, I went to investigate this handicapped duck. After an hour canoe trip looking for the duck, finding him, then baiting it, and finally catching the duck, Mr. Watson and I removed the hook, leader, and bobber and released the duck. We watched it fly off and join the rest of the flock to resume a normal life again.—District Game Protector Jay D. Swigart, Butler.

Fear for Fawn, Not of Man

FOREST COUNTY — This story was told to me by Deputy Harkless and was told to him by his employer, Ralph Clinger, of Kelletville. A friend of Ralph's that works on an oil lease was checking well sites one day. As he was walking by an abandoned tank, a large doe deer came racing up to him. At first he thought that it had been frightened by something and just didn't see him but the deer came right up to him, stopped for a minute looking right at him, then turned and trotted away to the abandoned tank just a little distance away. Thinking she was leaving he started on his way. At this, the deer came racing back to him, stopped, then trotted back to the tank. This same procedure took place several times until he decided to check the tank. The tank was open on top and a high bank came almost to the top of the tank on one side. The tank was about half full of water and to his surprise he found a small fawn swimming around in the tank. After rescuing the fawn he stood back and watched the old doe check it all over. As he watched them trot away together he couldn't help but be amazed at how a creature as wild as a deer could forget all her fear of mankind to save her young.—District Game Protector Cecil E. Toombs, Jr., Tionesta.

Odd Antler

ERIE COUNTY—I watched a large buck graze in a clover field on State Game Lands No. 167. The animal had a deformed antler that had grown down along its head and obscured its right eye. The antler had no points and resembled a club about four inches in diameter and 14 inches long. I was less than 100 yards from the deer and observed it with binoculars to make sure I was not seeing things. —District Game Protector Elmer Simpson, Union City.

CONSERVATION NEWS



PGC Photo by Joe Chick

GAME AND FISH COMMISSIONS cooperate here in Fulton and Franklin Counties to provide a water recreation area on State Game Lands No. 53. Inspecting the dam area (background) and plans explained by Fish Commission Engineer Edward Miller are (left to right) Game Protector Carl Jarrett, James Starner of the Fish Commission, Game Commission SC Division Supervisor William Hodge, Land Manager Nicholas Ruha, Fish Warden Bryce Carnell, Fish Commissioner Joseph Critchfield, Land Management Assistant George Burdick, Fish Commission President Maynard Bogart, Game Commissioner Dewey Miller, Fish Warden Supervisor Harold Corbin, and of the Fish Commission Engineer Roy Franks.

IKES SPONSOR HUNT AMERICA TIME FOR FIFTH YEAR

"Respect Private Property and Save Public Hunting" is the theme of this year's Hunt America Time, sponsored by the Izaak Walton League of America.

The national hunter education program adopted by local chapters across Pennsylvania is designed to protect Keystone State landowners from vandalism and careless handling of fire and firearms by hunters . . . and to make it possible for more landowners to permit public hunting.

On many license agents' counters in Pennsylvania, the local Ikes have made pledge cards available along with the red and yellow Hunt America Time badges.

Another phase of the local program this year is to contact landowners and explain the HAT program. Hunters and landowners interested in learning more about the HAT program are asked to contact the nearest chapter of the Izaak Walton League of America.



WILLARD T. JOHNS



KENNETH V. GARDNER

Johns and Gardner Named To I & E Posts by Commission

The Pennsylvania Game Commission announced recently the appointment of Willard T. Johns, Hershey, as Wildlife Information Specialist. He replaces Robert D. Reed who retired August 10. The new information officer in the Commission's Harrisburg headquarters has served for the past year as Wildlife Education Specialist and prior to that, was editor of Pennsylvania GAME NEWS for 13 years. Johns joined the Commission in 1947 as editorial assistant, following graduation from the University of Maine with a Bachelor of Science degree in wildlife conservation. He is past president of the Pennsylvania Outdoor Writers Association and a member of the Outdoor Writers Association of America. In his new position, he will coordinate the Commission's public information program and will also supervise the magazine and other publications.

The Commission also announced the promotion of Kenneth V. Gardner, York, to succeed Johns as Wildlife Education Specialist. Gardner joined the Commission in 1956 as a Game Biologist and has been engaged in field research investigations on habitat development and population studies of various game species. He is a graduate of North York High School, received a Bachelor of Arts degree in biology from Gettysburg College and a Master of Science degree in Wildlife Management from Cornell University. He served as a biology instructor at Gettysburg College from 1954-56. He is a member of the Wildlife Society and American Society of Mammalogists. In his new position, Gardner will coordinate the Commission's education programs among adult and youth groups throughout Pennsylvania, plan and supervise construction of wildlife exhibits, and supervise the Commission's audio-visual programs.

Dove Season Opens Hot

Reports from Pennsylvania Game Commission field officers indicate the 1962 dove season which opened at noon, September 1, got off to a good start although hot and humid weather kept some hunters at home. Statewide the number of hunters was reported as less than last year, but in some areas of southeastern and southcentral Pennsylvania there were more hunters afield than ever before. Hunter success in the best dove areas was reported as good to excellent, with about the same number of doves as last year. There were no accidents reported and law violations were at a minimum, mostly involving unplugged shotguns, hunting without a current license, or shooting too close to occupied buildings.

Survey Shows Over 3,000 Nutria on Pennsylvania Fur Farms

More than 3,000 nutria are presently being raised on 43 fur farms throughout the state, according to a survey just completed by field officers of the Pennsylvania Game Commission. Most of the animals and farms are located in southcentral Pennsylvania although all of the Commission's field division report at least 3 farms and 100 animals.

According to M. J. Golden, Executive Director of the Commission, a close check is being kept on nutria because of the danger that some of these large rodents may escape or be released into the wild. Golden said, "In October, 1957, the Commission adopted a resolution prohibiting the importation of nutria into Pennsylvania or the release into the wild of any of these animals. Experience in other states has clearly shown that nutria rapidly become a hazard to other wildlife, especially muskrats and waterfowl, when they are allowed to enter the wild. We are doing everything possible to prevent this from happening in Pennsylvania."



MANVILLE B. WELLS

Manville "Manny" Wells Retires With 30 Years of Service

Manville B. Wells, Law Enforcement Assistant in the Game Commission's Southwest Division, retired on October 19 with 30 years of service. His retirement date was two days following his 60th birthday.

Born in New Albany, Pa., "Manny" joined the Game Commission on a permanent basis as Refuge Keeper in 1932. However, he served as a Deputy Game Protector in Sullivan County for four years before becoming a salaried officer.

In 1940, "Manny" was given a special assignment as Game Protector in Susquehanna for a year and then became a District Game Protector serving in Susquehanna and Union Counties until 1949 when he became a Wildlife Protection Assistant in the Commission's Southwest Division Office at Ligonier. In 1952 he was named a Land Utilization Assistant and in 1953 Law Enforcement Assistant.

In retirement "Manny" plans to pursue his two favorite hobbies, small game hunting and bass fishing. "Manny" and his wife Aletha have a married daughter, Cherie A. Burgener. The Wellses live at 245 West Main Street, Ligonier.



PGC Photo by Vernon Van Order

175 YEARS OF SERVICE are represented in these Deputy Game Protectors of the North-central Division. Left to right, are: Guy L. Leach, Clearfield Co., 25 years; Robert M. Farwell, Clinton Co., 25 years; Floyd B. Brion, Lycoming Co., 22 years; Thomas B. Hoffman, Union Co., 30 years; John B. Miller, Union Co., 27 years; and Maurice V. Smith, McKean Co., 30 years.

Commission Issues Safety Warning to Woodchuck Hunters

An increase over last year in the number of nonfatal accidents involving woodchuck hunters during the summer months is causing concern among Game Commission officials. According to John Behel, the Commission's Hunter Safety Training Coordinator, a total of 34 accidents have been reported so far in 1962, plus two fatal injuries. Last year the total for the entire 12-month period was 20 nonfatal accidents and 7 fatalities.

Behel pointed out that even though interest in woodchuck hunting wanes during September, there are still many Pennsylvania hunters afield for a last crack at the popular game animals before they go into hibernation. He emphasized the severe penalties which can be imposed on hunters responsible for accidental shootings. Under the Game Law any hunter who shoots at a human being in mistake for game can be fined between $100 and $300. In addition, his hunting license can be revoked for two years from the date of conviction. For wounding a human by mistake, the penalties involve a $200-$500 fine, a jail sentence of not less than one year nor more than three years, and a five-year license revocation. Hunters who kill another person in mistake for game may be fined $500-$1,000, serve a two- to five-year jail sentence, and have their hunting license revoked for ten years.

Most woodchuck hunting accidents are caused by hunters failing to properly identify their targets, even when using scope-equipped rifles. "Almost all accidents of this type could be avoided," Behel said, "if hunters would wear fluorescent, bright orange or red hunting caps and vests. We strongly urge all hunters to take a few additional seconds to make sure of their target, as well as a safe back-stop, before they fire. You can't recall a careless bullet."

Howard E. Ball Appointed Division Chief, Bureau of Outdoor Recreation

Appointment of Howard E. Ball as Chief, Division of Federal Programs, in the Bureau of Outdoor Recreation was announced recently by Secretary of the Interior Stewart L. Udall.

Immediately prior to his appointment to the staff of Director Edward C. Crafts, Mr. Ball was a management official with the Agency for International Development.

Married, Mr. Ball makes his home at 4809 Wrightson Drive in McLean, Va.

TIPS FOR HUNTERS



When hunting ringnecks without a dog, be sure to work a field in the direction of least cover. Birds are reluctant to run over bare fields. Likely they will freeze and the hunter will get a shot. — *Reverend George L. Harting.*

Training School Open House Attracts Over 250 Visitors

More than 250 guests visited the Pennsylvania Game Commission's Training School near Brockway at an open house September 16. According to Superintendent Donald E. Miller, visitors were registered from many parts of Pennsylvania but the guest book also was signed by residents of New York and Ohio. Long distance honors went to a couple from Lake Worth, Fla., but they admitted they were visiting Pennsylvania on other business and merely included the school on their travel schedule when they heard of the public invitation.

A second open house was conducted Sunday, September 23, from 1:00 to 6:00 p.m., Daylight Saving Time, and the public was again invited to inspect the unique training institution, often called the school with the smallest enrollment but the largest campus (over 50,000 acres) in the United States. The school, officially named the Ross Leffler School of Conservation and located on State Game Lands No. 54, is presently training 18 student officers to become Pennsylvania Game Protectors. Members of this 11th class were on hand to show visitors the dormitories, classroom, dining facilities, exhibits and other points of interest. The school is located about 5 miles north of Brockway on paved secondary roads and can be reached by turning off Route 28 at a directional sign about two miles west of town.

NEW BOX NUMBER

The Harrisburg office of the Pennsylvania Game Commission has a new post office box number. All mail should now be directed to the Pennsylvania Game Commission, P. O. Box 1567, Harrisburg, Pa.



TIME OUT FOR LUNCH for Robert Lundquist, Richard Marks and Eugene Faulbo, all of Latrobe. These hunters are taking advantage of the available free hunting on the Armstrong Forest Company's land in Northcentral Pennsylvania on the opening day of deer season.



Am. Forest Prod. Industries Photos

DEER HUNTING IN McKEAN COUNTY on the opening day of deer season at the Armstrong Forest Company's land. Pictured are Richard and John Marks of Latrobe.

Take Advantage of Your Hunting Opportunities . . .

Forest Industry Lands Open to Free Hunting

MORE than 450,000 acres of tree farms and other forest lands owned by the wood-dependent industries in Pennsylvania will be open to free hunting this season, according to Tom W. Leete of Roulette, chairman of the Wildlife and Recreation Subcommittee of the Pennsylvania Forest Industries Committee.

He said the industries were making the land available again this year as in past years because "we believe in and are practicing the multiple use principle of forest land management. This," he explained, "means using forest resources for a combination of goods and services—continuous timber growing, soil and water conservation, wildlife habitat and recreation."

The figures on industry land open to hunting – 448,760 acres owned by 21 companies – were compiled by a survey taken by Mr. Leete's committee. He estimated that there is at least 50,000 additional acres open owned by companies which did not respond to the survey.

Timber growers, Mr. Leete pointed out, get a benefit from hunters' use of their land—the harvest of deer. Most of our land in the northern part of the state, he said, is suffering deer overbrowsing damage which is preventing maximum growth of new tree crops. "Heavier deer harvests on our lands will help us grow more timber for the future," the industry spokesman added. "For this reason, we are anxious to have substantial deer hunting on our lands, particularly on the one-day antlerless season on December 17."

Forest managers, he said, have also appreciated hunters' assistance in shooting porcupines because the porkies girdle and damage valuable trees in localized areas in many forested sections of the state.

"Whenever possible," Mr. Leete declared, "most industrial timberland owners are glad to make their land available for hunting provided the safety of sportsmen is not seriously endangered and logging operations severely hampered."

However, he added, free hunting on industry land is definitely a privilege

and not a right. The time may come when rising costs of holding and managing timberland may make it necessary to charge for hunting and other recreational use. He pointed out that recreational user charges are getting increasing consideration by governmental land management officials.

Sportsmen, he suggested, can help insure their continued welcome by being good guests. Forest visitors should always be careful with fire, clean up litter, avoid acts of vandalism such as breaking fences and gates or shooting signs, and should take care to avoid blocking logging roads.

COMPANIES AND ACREAGE OPEN INCLUDES

Acres	*Counties*	*Contact for more Information*
138,000	Warren, McKean, Elk, Cameron, Tioga, Bradford, Lycoming, Clinton, Centre, Forest, Wyoming	C. H. Smalley, Woodlands Mgr., Armstrong Forest Company, Johnsonburg, Pa. (*Free Permit Required*)
135,000	Erie, Crawford, Venango, Warren, McKean, Tioga, Potter, Forest	N. C. Tuttle, Woodlands Mgr., Hammermill Paper Co., Erie 6, Pa.
8,000	Forest, McKean, Warren	R. J. Gustafson, Endeavor Lumber Co., Endeavor, Pa.
500	Greene	Russell E. Headlee, Garards Fort, Pa.
800	Potter	Tom W. Leete, Leete Lumber Co., Roulette, Pa.
49,000	Potter, McKean, Cameron	John U. Villesvik, Plateau Woodlands, West Virginia Pulp and Paper Co., Coudersport, Pa.
20,000	Crawford, Warren, Forest, Venango, Clarion	William Nagy, Fisher & Young, Titusville, Pa.
1,000	Warren, Potter	L. H. Noll, Larimer & Norton, Tidioute, Pa.
7,000	Potter, Tioga	George F. Patterson, Patterson Lumber Co., Wellsboro, Pa.
3,000	Elk	Edward A. Pontzer, Corbett Cabinet Co., St. Marys, Pa.
500	Cambria	Louis Krumenacker, Krumenacker Lumber Co., Carrolltown, Pa.
4,500	Crawford, Erie, Warren, Forest, Venango	Joseph Arnold, Eager Beaver Lumber Co., Townville, Pa.
15,000	Elk, McKean	Frank Novosel, Novosel Lumber Co., R. D. 2, Box 66, Kane, Pa.
5,600	Cambria, Somerset, Bedford	Arthur Poorbaugh, R. A. Poorbaugh & Son, R. D. 3, Stoystown, Pa.
3,800	Venango, Warren, Forest	John W. Cubbon, R. D. 1, Oil City, Pa.
8,000	Northumberland, Union	Stephen Tressler, Barrett Division, Allied Chemical Corp., Sunbury, Pa.
2,560	Fayette	Fred Sproul, Sproul Lumber Co., P. O. Box 911, Uniontown, Pa.
500	Bedford	Oscar Foor, Everett Hardwood Lumber Co., Everett, Pa.
3,000	Sullivan, Lycoming	Dwight G. Lewis, Gleason & Lewis & Son, Hillsgrove, Pa.
15,000	Clarion, Forest, Venango, Jefferson	Burnett Mealy, P. A. Niederitter & Co., Marble, Pa.
25,000	Somerset	Thomas M. McNeal, McNeal Lumber Company, Windber, Pa.
1,800	Sullivan, Columbia	Miles Little, Otto G. Little & Son, Benton, Pa.

HUNTER SAFETY EDUCATION



PGC Photos by Steve Kish

STROUDSBURG TEACHERS LEARN hunter safety education taught by District Game Protectors Jack Altmiller of Lackawanna County and John Doebling of Monroe County. The course was taught to 22 student teachers at the Stroudsburg College early last summer.

HUNTER SAFETY EFFORTS RECOGNIZED as Michael Rinaldi (third from left) receives a certificate of merit from the American Association for Conservation Information presented here by Game Commission NE Supervisor Roy Trexler. Others appearing are Norvall Cornell, Robert Hilderbrand (both of Wilkes-Barre Rifle and Pistol Club), Commission Hunter Safety Coordinator John Behel, and GAME NEWS rifle columnist Jim Varner.



Teachers Become Hunter Safety Instructors

Public high school teachers from twelve counties in Pennsylvania have completed the Pennsylvania Game Commission's hunter safety instructor's course at East Stroudsburg State College.

Miss Helen Brown, instructor for the college, was assisted by District Game Protectors John H. Doebling, John L. Altmiller and Conservation Information Assistant Steve Kish in presenting the eight-hour course.

The course was sponsored by the Physical Education Department of the East Stroudsburg State College with instruction on: Knowledge of firearms and ammunition, proper gun handling, home gun safety, hunter's responsibility and the fundamentals of marksmanship. An outdoor range at the Blue Ridge Cherry Valley Rod and Gun Club near the college was then utilized for instruction in range procedure, firing rifles, revolvers and shotguns.

The teachers were members of the outdoor recreation class of the summer session at the college and twenty-two will receive identification cards from the Pennsylvania Game Commission certifying them to teach hunter safety.

Pa. Game Commission
Hunter Safety Certified

To Date:

Instructors—3,833

Students—44,070

GAME NEWS



PGC Photo by George Harrison

A NICE PHEASANT is properly harvested and stowed away in the game bag. The Game Commission hopes that this hunter will report his kill with the questionnaire on the back of this page. If you bag any small game this year, please report it on the form.

Game Commission Needs Help in Wildlife Resource Use Study

The past year has brought new concern for the availability of outdoor recreation facilities in America. Because hunting is a major outdoor pastime, the Pennsylvania Game Commission is attempting to find out more about the Pennsylvania hunter and the public use of our State Game Lands. A greater knowledge of hunting and outdoor recreation in our state will better prepare us for the inevitable future demands of our citizens.

GAME NEWS readers can be of great assistance to the GAME COMMISSION in this study. This magazine has a wide range of readership which can supply answers to the equally wide range of questions in this study of Pennsylvania's wildlife resource use. While we are primarily concerned with those persons who actually hunt, we are also interested in determining how many people utilize our wildlife resources for other forms of recreation.

Kind of Information Needed

First, we need to know something about the hunter. How old he is, how he makes his living, where he lives, and where he likes to hunt.

Secondly, the type of hunting he does is important, too. Is he a small game hunter? If so, which of the small game species does he prefer? How successful is he and how much time does he spend hunting? He might be a rabbit hunter part of the year and a waterfowl hunter at other times. All these questions can be answered on the questionnaire on the back of this page.

Landowners Also Important

Undoubtedly the vast majority of lands open to public hunting are privately owned. And inasmuch as the Game Law permits certain landowners, farmers and tenants to hunt on their own lands and adjoining lands without the purchase of a hunting license, it is of importance to the Game Commission to know how many people in this category actually participate in small game hunting.

We Need Your Help

On the back of this page you will find a group of questions which you can easily answer and at the same time supply your Game Commission with valuable information. Simply tear out this page and answer all the questions as completely as possible. Mail the completed questionnaire to the Pennsylvania Game Commission, P. O. Box 1567, Harrisburg, Pa., on or before January 15, 1963.

Wildlife Resource Use Questionnaire

Please answer each question only for yourself. Place questionnaire in an envelope and mail to Pennsylvania Game Commission, Box 1567, Harrisburg, Pa., by January 15, 1963.

Name (Optional) _____

Address (Optional) _____
Street City State

Sex: M _____ F _____ Age _____ Occupation _____

1. Are you a resident of Pennsylvania? Yes _____ No _____
2. Did you hunt small game in Pennsylvania in 1962? Yes _____ No _____
3. If yes, how many separate days did you hunt small game? _____
4. How many years have you hunted small game? _____
5. In which counties did you hunt small game in Pennsylvania in 1962? _____
   _____
6. Which one small game species do you prefer to hunt? Rabbits _____ Squirrels _____ Grouse _____ Bobwhite Quail _____ Pheasants _____ Turkeys _____
7. How many pieces of each did you bag in 1962? Rabbits _____ Squirrels _____ Grouse _____ Bobwhite Quail _____ Pheasants _____ Turkeys _____
8. Did you bag any banded or tagged game? Yes _____ No _____
9. If yes, give the species and the band or tag number. _____
10. Did you hunt mourning doves in 1962? Yes _____ No _____
11. If yes, how many doves did you bag? _____
12. Did you hunt woodcock in 1962? Yes _____ No _____
13. If yes, how many woodcock did you bag? _____
14. Did you hunt waterfowl in 1962? Yes _____ No _____
15. How many ducks did you bag? _____
16. How many geese did you bag? _____
17. Which of the above migratory species do you prefer to hunt? _____
18. Did you hunt snowshoe rabbits in 1962? Yes _____ No _____
19. Did you hunt woodchucks in 1962? Yes _____ No _____
20. Do you take vacation to hunt small game? Yes _____ No _____
21. If not, when do you hunt? Day off _____ Evening after work _____ Week-end _____ Morning before work _____
22. If you are a landowner who derives the major portion of your income from farming, did you hunt on your land and adjoining land without a 1962 Pennsylvania hunting license? Yes _____ No _____
23. If you are a farm tenant, did you hunt on your farm and adjoining farms without a 1962 Pennsylvania hunting license? Yes _____ No _____
24. Did you hunt on State Game Lands in 1962? Yes _____ No _____
25. Are you familiar with Pennsylvania's Cooperative Farm-Game Projects? Yes _____ No _____
26. Did you hunt on one of these projects in 1962? Yes _____ No _____
27. Is your farm part of a Cooperative Farm-Game Project? Yes _____ No _____
28. If you do not hunt, did you utilize State Game Lands for any of the following? Hiking _____ Nature Study _____ Photography _____ Other, specify _____



Photo by Simantiras

THE FINISHED PRODUCT and the major effort in the Beaver County Pheasant project. The local sportsmen picked up the tab for materials, the Game Commission provided the pheasant chicks and food while the Department of Forests and Waters made the land available and the State Correctional Institution supplied the labor.

They Raise Pheasants the Easy Way...

Beaver's Pheasant Formula

By Elmer Anderson (OWAA)
Public Relations Chairman
Beaver County Conservation League

DOWN here in Beaver County there exists a unique example of cooperation between organized sportsmen and certain state agencies that contradicts the old theory about having one's cake and eating it, too.

The Aliquippa Bucktails have figured out a way to get approximately 500 pheasants raised and released annually in and around their favorite hunting areas; and, aside from the cost of materials and a little old-fashioned sweat of the brow for actual construction, the sportsmen can just sit back and let others bear the burden of caring for the birds until time to turn them loose.

They merely arranged to construct a pen at the Youth Forestry Camp in Raccoon Creek State Park so the boys there could raise pheasants for them.

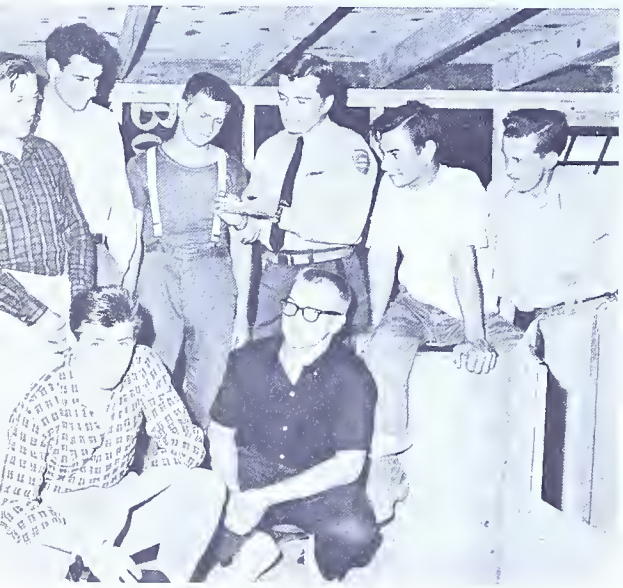
Perhaps this appears to be an example of ridiculous over-simplification. However, in the way of an explanation, let us confess that we in Beaver County, like most sportsmen, are plagued by a certain amount of inherent laziness. This month the seeds of enthusiasm for the explosive cock pheasant are blossoming into hot pursuit.

The only trouble is, too often, we confine this interest to the hunting season. The time when we should be demonstrating our greatest concern for the autumn pheasant population most of us are involved in the annual crusade against the insidious enemy,



Photo by Simantiras

THE BUCKTAIL SPORTSMEN who are responsible for the pheasant project in Beaver County are (front) Russel West, Chuck Wagner, Al Huwar, Bill Harris, (back) Marty Libatore, Richard Kriest, Howard Hanna, District Game Protector Harry Merz, Club President Ken Snyder, Park Superintendent George Armstrong, and camp director Thornton Walker. Tom McClean is not pictured.



OUTDOOR PEOPLE Photo

THE REAL WORKERS are assisted here by District Game Protector Harry Merz. These are the boys from the Youth Forestry Camp who did the actual rearing of the pheasants.

crabgrass. There is hardly time to hold on to our various neighborhood status symbols and still salvage enough time for fishing. Yet, spring is the time to put pheasant chicks in the brooders and start the countdown which should end on some crisp November day when the big cackler fulfills his destiny by intercepting a load of number 6's.

So, what can sportsmen do about it? Simple—Follow the Bucktails' lead and let someone else raise the pheasants.

Most clubs in the Beaver County Conservation League have been participating in a program designed to assist in the character rehabilitation of the boys in the Youth Forestry Camp at Raccoon Creek State Park. This was being accomplished primarily through the donation of books, athletic equipment, movies, lectures, etc., until the Bucktails realized that they could launch the boys on a real project that would also boost the area's hunting potential.

At first this decision seemed incredible. They would have to build a 500-bird pen on Department of Forests and Waters land. Boys under control of the State Correctional Institution would raise the birds. The chicks and most of the feed would be provided by the Game Commission, and the local sportsmen would pick up the tab for all materials. It involved the agreement and harmonious cooperation of four different organizations. A shining tribute to all of these groups is the fact that the project was carried out with virtually no problems.

Thornton Walker, Director of the Raccoon Park Youth Forestry Camp, seized this opportunity to provide the youths with a chance to illustrate their ability to assume a genuine responsibility. George Armstrong, Park Superintendent, promptly obtained the Department of Forests and Waters' blessing and made available an ideal site for the pen. Game Protector Harry Merz handled the Game Commission's phase of the operation such as overseeing construction specifications and providing the day-old chicks and five pounds of feed per chick. Aliquippa Bucktails co-chairmen Bill Harris and Chuck Wagner managed the procurement of material and overall construction.

The crabgrass chores will endure, no doubt, but at least the Aliquippa sportsmen won't have to worry about raising ringnecks for fall hunting seasons.

COMPETITIVE ARCHERY

By Tom Forbes



Photos by the Author

PENNSYLVANIA STATE ARCHERY CHAMPION Lars Edburgh of Berwick is shown here spotting his hits from the target line at the Lancaster Archery Tournament in July.

THE desire to excel in any phase of human endeavor is the rule rather than the exception and each one of us takes justifiable pride in attaining his or her goal. So it is that competitive archery has an appeal to many of us. Within our capabilities we strive to do our best. Most of us are perfectly content with our own measure of success. We watch the champions perform or read of the records that they set at the annual tournaments, but our enjoyment of archery is measured by the satisfaction we feel when we have met or exceeded the particular goal we have set for ourselves.

The 1962 tournament season scores are entered in the record books. Each year the defending champions have difficulty in repeating their victories and this year was no exception. Records were broken and new names stand at the top.

In the National Field Archery Association the winners in the Instinctive Non-Amateur Class are declared the Champions at the Annual Tournament. A total of 506 archers competed at Crystal Springs, Ark., from July 30 to August 3. They came from 39 of the fifty states and from Canada. In the adult divisions the sight shooters outnumbered the bare bow archers. About 47 per cent of all the participants at the tournament used sights. Dr. John A. Heilman from Bethlehem, Pa., won in the Instinctive Amateur Division with a 910 Field, 853 Hunter and 494 Animal, an aggregate of 2,257; just four points better than his nearest competitor. In the Women's Instinctive Amateur Division Patti Bailey, the Pennsylvania Ladies' Field Champion, won with 1,895. Jane Waite, a professional free-styler of Tyrone, Pa., and winner at the last Ben Pearson Shoot, was third in her division. She set a new record of 880 for the Hunter Round.

The new Men's National Field Champion is Jim Bell from Cambridge, Ohio. He won by topping the score of the defending champion, Lon Stanton, who took the second place spot. Bell had a record-breaking 964 Double Hunter and an aggregate score of 2,638. Stanton trailed by 291 points.

The new NFAA Women's Champion is Marie Stotts from Westminster, Calif. Proving that the new crop of archers cannot be denied the laurels of victory, Marie has come to the top in less than a year. She is a pupil of Les Speaks and is one more proof that the beginner should seek competent



A PROFESSIONAL FREE-STYLER, James Mackey of Bradford.

instruction in the sport of archery. Her aggregate score of 1,911 was made up of a 729 Field, a 776 Hunter (a new record), and a 406 Animal Round. Runner-up was Joan Curran from Missouri with 1,864.

With amateur and professional shooters, Instinctive and Free Style Divisions in the NFAA Tournament, the spectator is generally unable to determine who is the top scoring archer. Among the ladies the crown goes to Joan Bollum who topped all other ladies' scores. Shooting as a Free-Styler in the Amateur Division she has the satisfaction of knowing that she outscored all the other ladies in the tournament. She set new Field (794) and Hunter (829) records and her total score was 2,077; topping the NFAA Woman Champion's score by 166 points.

In the Men's Professional Free Style Division, a newcomer from California, Don Cavallero, outshot such outstanding professionals as Bob Kadlec, Jim Mackey, Jim Caspers, and Bill Partin, the runner-up. Cavallero's aggregate score was 2,627, with record-breaking Field Rounds of 514 and 540. He outshot the new NFAA Champion by 259 points.

Bob Sevey, defending champion in the Amateur Free Style Division, retained his title with a 1,011 Field, 1,052 Hunter and 518 Animal Rounds. Total score was 2,581. He was third among the sight shooters at the tournament. Sevey topped the NFAA Champion's score by 213 points but was beaten by the number 1 and 2 men in the Professional Free Style Division.

In the Intermediate Boys, Pennsylvania's Larry Mann shooting in the Instinctive Division placed third. The winner was Paul Bemus with a score of 2,270. Andrea Maikut, a Pennsylvanian, won the Girls' Junior Instinctive title with 1,957. Pete Palazzo shot a 2,351 to win the Boys' Intermediate Free Style Division.

What the future holds for competitive archery cannot accurately be foretold. Change is certain but the final picture is obscure. Certainly there will be two grand divisions, the Professionals and the Amateurs. The backbone of archery will be the amateurs and their ultimate goal will be the opportunity to shoot in Olympic competition.

The Annual Championship Tournament of the National Archery Association was held on the grounds of the Oak Brook International Polo Club at Chicago, Ill., on August 7-10, 1962. This was the 78th Annual Tournament. In tournaments conducted by the NAA the championship is awarded to the high-scoring amateur. The men's championship was won by Charles Sandlin from Arizona who posted a 1,111 International, a 948 York, and American Rounds of 762 and 750 for a total of 3,571. Second was Allen Muller from Minnesota who scored a 1,128 International, a 956 York and American Rounds of 734 and 732 for an aggregate score of 3,550; 21 points behind the winner.

For the ladies Nancy Vonderheide, World Champion Lady, lived up to her reputation and won the title with a 1,047 International, a 558 National, a 568 Columbia and American Rounds of 694 and 692, for an aggregate score

of 3,559. Runner-up Anna Mae Medert, also from Cincinnati, Ohio, was 9 points behind the winner. Mrs. Medert's scores: International 1,070, National 530, Columbia 574 and in the American Rounds 678-698. Total 3,550.

There were 15 professional archers shooting in the tournament. The top-scoring professional was Bob Pender with 1,138/945/742/758 for a total of 3,583. Pender beat out Jack Sauls from Florida by two points. This match was a seesaw affair with the lead changing back and forth and the issue in doubt until the last arrow. Pender also had the satisfaction of posting the highest score in the tournament; 15 points better than the Champion. Jack Sauls' International Round was the highest (1,140) ever shot by a professional. At the 40-yard distance on his first American Round, he shot a perfect score of 270. That means that he placed 30 consecutive arrows in the 9 ring, a circle 9 3/5 inches in diameter.

In the Intermediate Boys' Class they shoot an International, a Hereford and two Americans. Ed Hansel from Mt. Holly, N. C., was first with 3,281 followed by Pennsylvania's Denny Shatzer with 3,198. The Clout Shoot which is becoming increasingly popular with the Field shooters in Pennsylvania was won by Jim Yoakum from Sacramento, Calif., wth 276 out of a possible 324. Joe Thorton, World Champion Titleholder, placed third, 19 points behind the Men's Champion.

Carol Strausburg, with a score of 3,373, won the Intermediate Girls' Title and Dolly Hamilton was high Junior Girl with 1,837.

Among the Lady Professionals Margaret Tillberry took top honors with 3,722, an International 1,129, National 562, Columbia 596 and two Americans 699 and 736. Carole Meinhart, former Ladies' World Champion, was runner-up with 3,571.

The Pennsylvania State Archery Association held its Annual Championship Tournament at State College, Pa.,



CHAIRMAN of the National Archery Association's Committee on Eligibility, John Hibbard of Philadelphia.

over the Labor Day Weekend. Rain fell during portions of the tournament and scores suffered as the result. J. Lars Edburgh, a Bloomsburg State College student from Berwick, the defending Champion, again emerged as the victor. His aggregate score was 2,475. Second place went to Kenneth E. Runkle of York with 2,342. Bill Johnson of North Charleroi finished third with 2,301.

Mrs. Betsy Hibbard of Philadelphia won the women's title with 2,438 points, defeating the defending champion Mrs. Celia M. Walter of Selinsgrove by 118 points.

In the Intermediate Boys' group Denny Shatzer of Chambersburg won with a score of 2,241. In the Junior group, Bernard Wagaman, Jr., of York was high with 2,311. For the Professionals Leland Learn of Pittsburgh was high man with 2,234 and Jane Waite of Tyrone was high lady with 2,428. Both professionals were outshot by the amateurs in this tournament.

The York Archery Club Men's and Women's Teams won the team championship. This club has been a consistent winner in the team shoot and has successfully defended its possession of the team cup between annual tournaments when challenged by other clubs of the association.

Firearms for Bear Hunting

By Jim Varner



Photo by Leonard Lee Rue

OLD MOCCASIN JOE himself, the object of the hunt beginning on November 26 in Pennsylvania. This article lists the firearms that are best for hunting the black bear in our state.

DURING the eleventh month, daylight hours grow fewer and the hours of darkness increase. Time seems to gather momentum as it slides down the nadir. Many consider November the depressing brown month as colors fade and cold weather increases. It is the period when the alert countryman checks his buildings, harvests his late crops and makes all snug against the coming of snow and ice.

To the outdoorsman, woods-loafer and especially the hunter, November presents thrills and beauty in its muted hues of brown and gray. There is music in the evergreen groves and the brooks sing their way down from the highlands. There are days of cold driving rains, snow squalls and stinging sleet. But there are days of strangely brilliant light with mild temperatures to compensate for the bad when nature relaxes. We call these periods Indian Summer—perhaps the lull before the storm. The countryman who understands, takes advantage of this lull to get his outside chores in order.

Yes, the eleventh month can become severe and the small game hunter suddenly becomes a big game hunter with the arrival of the bear season. Our subject for the month will be on what we consider firearms adequate to do a humane job in bagging this top prize big game trophy. Pennsylvania sportsmen are indeed fortunate to be able to hunt such a magnificent big game animal as the American black bear. All of you, come closer to the big, old council fireplace and we will discuss rifles that are adequate for this great animal. While the writer is not claiming to be an expert authority on bear, some 45 or 50 years of hunting them with everything from the rifle to the 16 mm. motion picture camera with long-range telephoto lens causes one to observe and form his own opinions.



A few facts about the black bear in Pennsylvania may refresh your memories. Our state was the first one to protect the bear as a game animal in 1905, the same year buckshot was banned on deer. Steel traps were declared illegal on bear 1911, and in 1915 the use of pitfalls and pens was prohibited. In 1917 the hunting of all game including bear was prohibited at night. Raccoons was the one exception. In 1925 bear cubs were pro-

tected for the first time, and in 1935 the use of dogs was prohibited in hunting or chasing bear. In 1945 the annual bear damage fund for destruction of livestock, poultry and bees was increased from $3,000 to $5,000. In 1949 the penalty for unlawful killing of bear was increased from $100 to $200. The year 1953 brought a mandatory license revocation requirement in addition to cash penalties as prescribed for unlawfully killing a deer (revoked three years), and a bear (five years) at any other time than during the regular deer or bear seasons. You can hunt bear with the bow only during the bear season. Above actions taken by our Game Commission plainly show how highly the black bear is valued as a big game animal.

He's Quite an Animal

A few words about the size and characteristics of our black bear (Ursus-Americanus) from a biologist's standpoint may interest many of our younger readers or first-year bear hunters. "Old Moccasin Joe," as the boys along the Continental Divide in Colorado call him, is a medium-sized animal weighing from 250 to 400 pounds. Extreme specimens will be mentioned later. His form is robust; legs short, powerful; claws long, sharp, somewhat curved; tail almost nonexistent; soles of feet naked; plantigrade (which means walking on the whole sole of the foot like man). The ears are rounded and erect. Get ready for trouble when he lays them back and snarls. Tremendous set of almost canine-shaped teeth. Hair long and moderately soft. Color, usually black in Penn's Woods but elsewhere, may vary to chocolate, cinnamon, light yellow, and even albino phases in the Flat Head Lake area of Montana. One will see most all colors in the Yellowstone region — all the same "Moccasin Joe." The Rangers out there like the inexperienced to believe the color phases are the grizzly instead of the black bear. Believe me, once you see a real grizzly you have no reason for confusing a black bear with it. Our most famous guides, Park Rangers and others who possess any knowledge about the grizzly certainly respect its characteristics enough to give it a wide berth. All consider the black bear unpredictable and the grizzly always extremely dangerous.

The geographical range of the black bear in all its 14 species and subspecies ranges throughout most all of North America from the Everglades of Florida to the Maritime Provinces of Canada, and from Alaska to the Sierra Madres of Old Mexico. It is at home along the Continental Divide of the Rockies or the impenetrable salt marsh jungles of the south. As a whole we can probably be correct in saying it thrives in deep woodlands.

These bears are omnivorous; feeding on fruits, berries, acorns, beechnuts, grass, mice, squirrels, and any other animals it can catch; birds and their eggs; fish and frogs; ants and their larvae; honey and young bees as well as most all carrion and garbage.

Like our white-tailed (Virginia) deer the black bear is versatile enough in its environment capabilities to thrive within a few miles of heavily populated areas. Scranton, Wilkes-Barre, Stroudsburg and smaller cities often have bears hunted within three to ten

THE LAST DAYS OF NOVEMBER can become rough on the higher plateaus. One needs long underwear and high boots if he hopes to keep up with Pennsylvania's black bear. *Photo by the Author*





Photos by the Author

A NEAR RECORD 506-pound black bear (hog dressed) killed by Dr. Walter Larkin of Scranton during the early thirties in the Frytown section of the Poconos. George Miller on right is a well known bear hunter from East Scranton. Only 30 pounds short of the all-time record, this bear was shot with a 300 Savage firing a 180-grain bullet. Two shots were required.

miles of the city limits. These cases of a strayed animal are not unusual, but happen year after year.

While in an Apple Tree

While hunting deer with the bow three years ago the writer was perched some 15 feet up in a large apple tree hardly ten miles east of Scranton. The flimsy platform I was using allowed freedom enough to shoot the arrow with a 5¼-foot bow. A drizzling rain set in around 3:30 p.m. and darkness was closing rapidly. A pair of does were feeding in the edge of the orchard some 200 yards away and my attention was naturally on them, hoping a buck might enter the scene. All of a sudden a movement nearby registered out of the corner of my eye and there below me approached a very nervous large bear. This magnificent big brute had come out of the nearby woods that bordered a dense rhododendron swamp and was intent on getting himself some apples. A conservative guess on his weight would have been above 300 pounds. Others who saw this same bear during the season called him over 400.

The human odor of my approach to the tree was so strong to him that he made no attempt to eat apples. He was visibly worried and was peering up at me from no more than 35 feet distant but still refused to leave. We know their eyesight is not good but it seems ridiculous to believe this animal's vision could not distinguish my torso from the bole of the big, old apple tree I was "frozen" tight against. Had it been in bear season this fine trophy would have been an easy one for even the 44 magnum revolver cartridge. As to attempting to kill such a brute with the bow I will leave that to a more experienced archer than myself. He nervously paraded around below me for at least ten minutes then all of a sudden panicked. Three tremendous leaps which carried him at least 80 feet ended as abruptly as they started. He looked back over his right shoulder at me in the tree then silently disappeared into the fringe of his swampland home. With good light and the Bolex 16 camera I would have had a picture that few would believe.

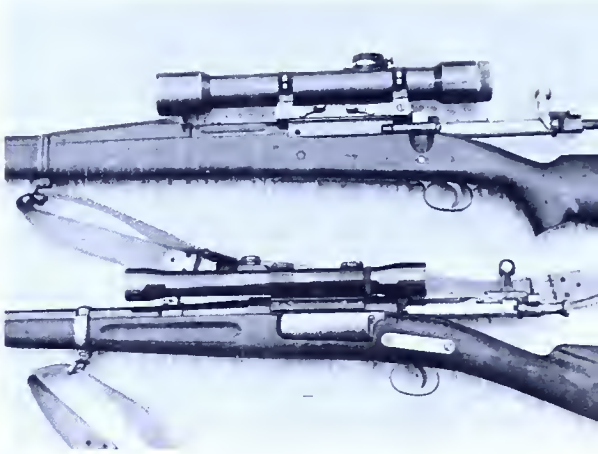
I have had many such experiences with black bears, and no one loves and admires this unpredictable "clown" of the woods more than I. To kill one would furnish little thrill, unless it was a most uncommonly huge one. Laid low with a high-powered modern firearm these animals are only a shapeless inert mass of flesh, which to me, has very little tasty meat. Alive, they are the personification of primitive wildlife, amusing, ludicrous, and the most human and understandable of our wild animals.

Bigger on the Run

As far as we know the big bear mentioned above is still alive. He has run the gantlet many times. The natives in his area now have his weight to over "500" pounds!! Escaping bears and deer get awfully big in the eyes of most sportsmen. Just last bear season we heard a "rolling barrage" of



FAST ACTIONS that are adequate bear killers are these two rifles: (top) Remington Model 760, 270-caliber with a Balvar 8-power variable scope. The bottom is the same rifle in a 308-caliber and a new Weaver 2½- to 8-power variable scope.



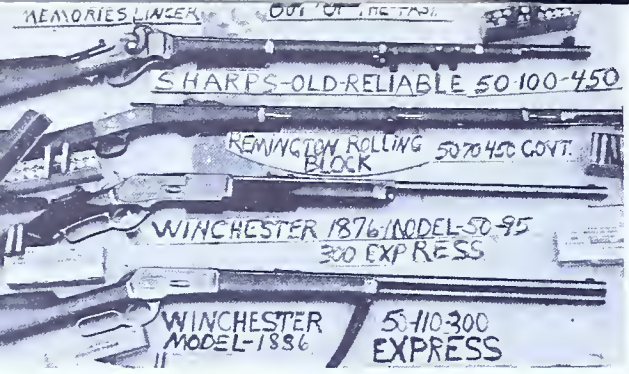
OLD RELIABLE bolt guns are (top) Springfield star gauge match grade 30-06 caliber with large Zeiss Zielmultar 1- to 6-power variable scope and the Griffin and Howe special mount. Reliable (bottom) old 30/40 Army Krag carbine with off-center Weaver mount and K-4 scope. Pennsylvania's record bear was killed with a rifle like this one.

18 or 20 shots fired at what was supposed to be this "beeg-a-won." The fact is, I decided to join a crowd to hunt him on the last day. I was carrying a real "bar-rifle" out of my collection, a grand old Model 1895 Winchester in 405 caliber. This was the one Teddy Roosevelt called his "Lion Medicine." The way the barrage started it looked like a chance was possible, but he again eluded the wild eyed operators of slides, levers and bolts and dashed into the safety of his great swamp. The stories told that evening by the ones who saw "Old-Moccasin-Joe" didn't leave any room for imagination or exaggeration.

Getting back to the subject of what cartridge and firearm is the best for humane killing of the black bear is like telling the American public what car they should buy. Actually, any rifle handling a good deer-killing cartridge, or any shotgun (preferably 12-gauge) using the new slugs makes an adequate firearm in the hands of a man who studies the location of the vital spots in the animal he is hunting. A skilled woodsman who does not get excited and is a fair to expert marksman will kill bear consistently with the ever popular 30/30 Winchester class of cartridges. This class takes in the old 30 Remington rimless, 32 Winchester Special, 32 Remington rimless and the 32/40 and possibly the 38/55 as loaded today. The 303 Savage belongs to above group. Cartridges which develop energy below the ones mentioned at 100 yards are not satisfactory for black bear.

High-speed, small-calibered cartridges like the 243 Winchester, 244 Remington and 257 Roberts with their heaviest bullets will qualify in the hands of experts. Bears are killed with much less energy, but more are wounded than killed. Personally we do not like cartridges that hit under 1,500 foot pounds at 100 yards. The 270 Winchester, 280 Remington, 264 Winchester, 7 mm. Mauser, 8 mm. Mauser, 30/40 Krag, 303 British, 308 Winchester (Nato), 30-06 Government, 300 Savage, 300 H. & H. magnum, and similar all qualify using their heaviest bullets at maximum velocity.

If you care to carry heavier calibers, so much the better, as humane kills are desired as well as preventing a wounded animal falling into the hands of those undesirables who grab every excuse possible to sneak your game away and claim it. Personally, we would rather be over-gunned with the



BONE-CRUSHING "BAR RIFLES" are pictured here. Used 75 years ago, they lacked in speed but made up in big caliber and heavy lead slugs. They were also driven by tremendous charges of black powder and were all 50 calibers.

new 7 mm. Remington magnum, 300 Weatherby, 338 Winchester magnum or similar super-dupers than let a good trophy be wasted or fall into the hands of the type mentioned. The twelve-gauge rifled slug does a good job within its accurate range, as well as some of the old big bores like the 45/70 when correctly loaded. Heavy bullets which break and crush heavy shoulder bones and keep on going are satisfactory.

I have in mind a near 400-pound bear killed in Pike County several years ago with a 405 Winchester. This bear was running directly away from the shooter. The heavy 300-grain soft point cut the hip bone into pieces, passed lengthwise through Mr. Bruin and smashed the left shoulder. Needless to say this bear crumpled where hit. Fellows, don't feel you are undergunned when hunting the biggest bears with a 30-06 with 180 or 220 Silver Tip or Core Lokt bullets ahead of maximum powder charges. One shot usually lands your game if properly placed.

The largest bear on record killed in our state was a 633-pound animal which hog dressed 538 pounds. It was killed in Pike County near Milford December 4, 1923. Its total length was 9 feet. As I remember, this big bear was killed with a 30/40 Krag using the old load made then with a 220-grain bullet soft point at 2,000 feet per second. The old Krag is still a fine rifle for heavy game.

Another huge bear was killed near the headwaters of Roaring Brook on the first day 1934 by Dr. Walter Larkin, Scranton. When one looks at the picture of this monster he requires very little imagination to see it was an unusual one. It was almost nine feet long and weighed 506 pounds hog dressed, which was not too far from the all-time record. Dr. Larkin killed it with a 300 Savage using a 180-grain bullet. The first shot broke its left front shoulder. This put it down temporarily but it immediately assumed an upright position on its hind legs when another shot through the neck killed it. Considerable snow was on the ground and our crowd of ten fellows was unable to do much with it. We obtained a stone sled with a team of heavy draft horses from our host Chas Schreck of the Frytown bear hunting area to pull it to our cars. The horses refused to go near the bear until we blindfolded them and put close-woven wheat bags over their noses so they were unable to smell the bear. On this same hunt a day later a 300-pound bruin was killed with one well placed shot from a 348 Winchester. It and the 358 are both great "meat-in-the-pot" rifles.

In conclusion, around 250 bears were bagged last year. Should be better in 1962. If 400 to 500 are bagged, that means one bear to about every 400 hunters. Therefore, hunting friends, if you draw a lucky chance use a good firearm for bear hunting—best of luck.

(Editor's Note: In Mr. Varner's September column "Reflections of the Small Game Gunner," on page 63 an incorrect statement was printed. Referring to the legal shell capacity for shotguns, the "incorrect" statement said: "The gun can be used with more (shells) on pests, crows and all target shooting." The Game Law calls for a three-shell maximum capacity for hunting ALL wild birds (including crows) and animals other than big game. The 1961 Legislative Session reinforced this law by making it mandatory to PLUG all magazine shotguns to the three-shell limit while hunting all wild birds and animals other than big game. We received over 50 letters from readers concerning this oversight.)

1962 PENNSYLVANIA OPEN SEASONS FOR WATERFOWL AND OTHER MIGRATORY GAME BIRDS UNDER FEDERAL AND STATE REGULATIONS

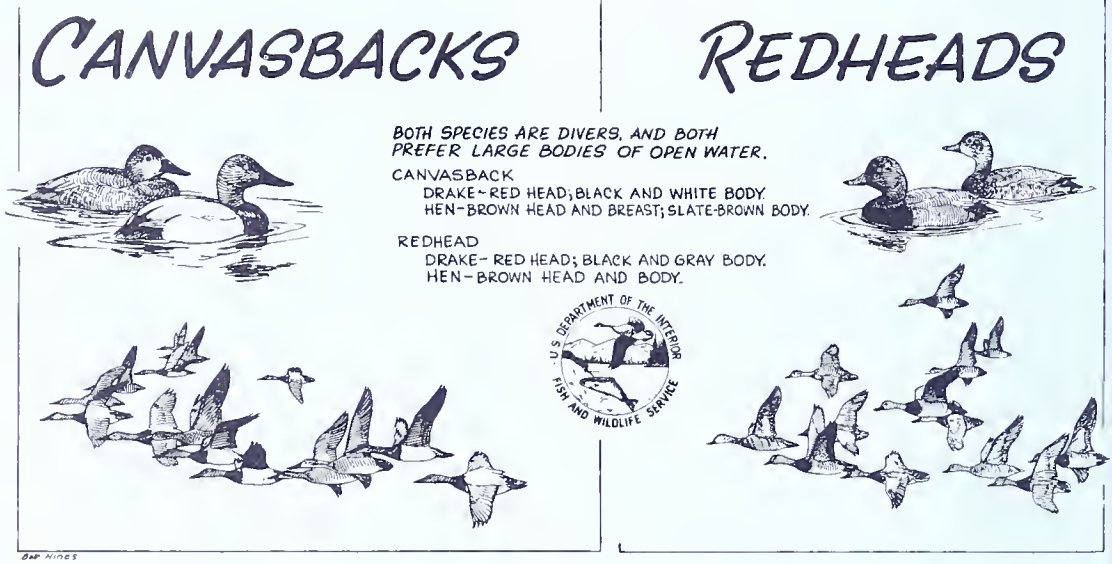
Species	Open Seasons First Day	Open Seasons Last Day	Daily Bag Limits	Maximum Possession Limits	Shooting Hours
Doves	Sept. 1	Nov. 9	12	24	12 O'clock Noon EST to Sunset
Sora	Sept. 1	Nov. 9	25	25	Sunrise to Sunset, except as below**
Other Rails & Gallinules	Sept. 1	Nov. 9	15	30	
Wilson's or Jacksnipe	Oct. 1	Oct. 30	8	8	
Woodcock	Oct. 13	Nov. 21	4	8	
*Ducks (exceptions below)	Oct. 20	Dec. 8	2	4	Oct. 20 - 12 Noon EST to Sunset**
Mergansers - American & Red-breasted	Oct. 20	Dec. 8	5	10	Oct. 27 - 8 A.M. EST to Sunset**
Coots	Oct. 20	Dec. 8	6	6	Other Days - Sunrise to Sunset
Geese - Crawford County only	Oct. 20	Dec. 8	1	4	EXCEPTION - Controlled Shooting Section of Pymatuning Goose Management Area - Sunrise to 12 Noon EST, on Monday, Wednesday, Friday and Saturday, beginning Monday, October 22, 1962.
Geese - Controlled Shooting - Pymatuning Goose Management Area	Oct. 22	Dec. 8	1	4	
Geese - Remainder of State	Oct. 10	Dec. 8	2	4	
Brant - Crawford County only	Oct. 20	Dec. 8	6	6	
Brant - Controlled Shooting - Pymatuning Goose Management Area	Oct. 22	Dec. 8	6	6	
Brant - Remainder of State	Oct. 10	Dec. 8	6	6	

*Canvasbacks and Redheads - Closed. Daily bag and possession limit one (1) wood duck and one (1) hooded merganser.
In excess of the above limits, 2 additional scaup ducks are allowed in the daily limit and 4 additional scaup ducks in the possession limit.
**NOTE: Unlawful to hunt for any wild bird or animal, including migratory game, except deer with bow and arrow, prior to 12 Noon, EST, October 20, 1962. Unlawful to hunt for any wild bird or animal, including migratory game, prior to 8 A.M., EST, on October 27, 1962.

NO OPEN SEASON - CANVASBACK AND REDHEAD DUCKS, SNOW GEESE AND SWANS. NO SUNDAY HUNTING.

MIGRATORY BIRD HUNTING METHODS - Permitted: Bow and arrow, or shotgun not larger than 10-gauge, of not more than 3-shell capacity, which must be plugged to 3 shots so that plug cannot be removed without disassembling the gun; dog; blind; boat propelled by hand; floating device other than sinkbox; artificial decoys. Injured or dead waterfowl may be picked up by means of a motorboat, sailboat or other craft. Shooting is permitted from a boat or other craft having a motor attached if such craft is fastened within or tied immediately alongside of any type of stationary hunting blind. Prohibited: Electrical calling devices or recordings; rifles; handguns; live decoys; automobile; aircraft; sinkbox (battery); power boat, sailboat or any device towed by power boat or sailboat; salt or bait placed to lure, attract or entice birds to, on, or over the area where hunters are attempting to take them; use of cattle, horses, or mules and motor-driven land, water or air conveyance or sailboat to concentrate, drive, rally or stir up waterfowl or coots.

FEDERAL STAMP FOR MIGRATORY BIRD HUNTING - It is unlawful for a person over the age of 16 years to take migratory waterfowl unless he owns and carries on his person a current Federal Migratory Bird-Hunting Stamp, validated by his signature written in ink across its face. Not valid after June 30 following date of issue. This stamp is not required to hunt Sora, Rails, Gallinules, Woodcock, Wilson's or Jacksnipe, and Doves.(8/21/62)



PENNSYLVANIA

SUNRISE-SUNSET TABLE

The following times of sunrise and sunset are based on the 77th Meridian which runs north and south through Eastern Adams County, Harrisburg Airport, Williamsport and Eastern Tioga County. Times shown are EASTERN STANDARD TIME.

Hunters in localities east or west of the 77th Meridian should note that there is a considerable variation in sunrise-sunset times from those shown before (as much as 8 minutes earlier in Philadelphia and 12 minutes later in Pittsburgh). Check your local weather station for correct information.

	SEPT.		OCT.		NOV.		DEC.	
Date	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.
1	5:34	6:40	6:03	5:50	6:36	5:05	7:10	4:42
2	5:35	6:38	6:04	5:49	6:38	5:04	7:11	4:42
3	5:36	6:36	6:05	5:47	6:39	5:03	7:12	4:42
4	5:37	6:35	6:06	5:45	6:40	5:02	7:13	4:42
5	5:38	6:33	6:07	5:44	6:41	5:00	7:14	4:42
6	5:39	6:32	6:08	5:42	6:42	4:59	7:15	4:41
7	5:40	6:30	6:09	5:41	6:43	4:58	7:16	4:41
8	5:41	6.28	6:10	5:39	6:45	4:57	7:17	4:41
9	5:42	6:27	6:11	5:37	6:46	4:56	7:18	4:41
10	5:43	6:25	6:12	5:36	6:47	4:55	7:19	4:41
11	5:44	6:23	6:13	5:34	6:48	4:54	7:20	4:42
12	5:45	6:22	6:15	5:33	6:49	4:53	7:20	4:42
13	5:46	6:20	6:16	5:31	6:50	4:53	7:21	4:42
14	5:47	6:18	6:17	5:30	6:52	4:52	7:22	4:42
15	5:48	6:17	6:18	5:28	6:53	4:51	7:23	4:42
16	5:49	6:15	6:19	5:27	6:54	4:50	7:23	4:43
17	5:50	6:13	6:20	5:25	6:55	4:49	7:24	4:43
18	5:51	6:12	6:21	5:24	6:56	4:49	7:25	4:43
19	5:52	6:10	6:22	5:22	6:57	4:48	7:25	4:44
20	5:53	6:08	6:23	5:21	6:58	4:47	7:26	4:44
21	5:54	6:07	6:24	5:19	7:00	4:47	7:26	4:45
22	5:55	6:05	6:25	5:18	7:01	4:46	7:27	4:45
23	5:55	6:03	6:26	5:17	7:02	4:45	7:27	4:46
24	5:56	6:02	6:27	5:15	7:03	4:45	7:28	4:46
25	5:57	6:00	6:29	5:14	7:04	4:44	7:28	4:47
26	5:58	5:58	6:30	5:13	7:05	4:44	7:29	4:47
27	5:59	5:57	6:31	5:11	7:06	4:44	7:29	4:48
28	6:00	5:55	6:32	5:10	7:07	4:43	7:29	4:49
29	6:01	5:54	6:33	5:09	7:08	4:43	7:29	4:50
30	6:02	5:52	6:34	5:07	7:09	4:43	7:30	4:50
31			6:35	5:06			7:30	4:51

Know Your Game Protector

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Pennsylvania Official 1962 Open Season and Bag Limits

The Pennsylvania Game Commission established the seasons and bag limits below for resident game and fur bearers for the 1962 hunting license year which begins September 1.

SMALL GAME

	Daily Limit	Season Limit	DATES OF OPEN SEASONS First Day	Last Day
Rabbits, Cottontail (not more than 20 in combined seasons)	4	20	Oct. 27	Dec. 1 AND
			Dec. 26	Jan. 1, 1963
Squirrels, Gray, Black and Fox (combined) (not more than 30 in combined seasons)	6	30	Oct. 27	Dec. 1 AND
			Dec. 26	Jan. 1, 1963
Ruffed Grouse (not more than 10 in combined seasons)	2	10	Oct. 27	Dec. 1 AND
			Dec. 26	Jan. 1, 1963
Wild Turkey—Counties and Parts of, not listed below	1	1	Oct. 27	Nov. 10
—Counties, and Parts of, listed below*			Oct. 27	Nov. 24
Ring-necked Pheasants, males only	2	8	Oct. 27	Dec. 1
Bobwhite Quail	4	12	Oct. 27	Dec. 1
Hares (Snowshoe Rabbits)** (certain counties closed)	2	6	Dec. 26	Jan. 1, 1963
Raccoons (hunting or trapping)	Unlimited		No close season	
Woodchucks (ground hogs)	Unlimited		No close season	
Grackles	Unlimited		No close season	
Squirrels, Red (closed Oct. 1 to 26, inclusive)	Unlimited		All months except Oct. 1-26	

BIG GAME

Bear, over one year old, by individual	1	1	Nov. 26	Dec. 1
Bears, over one year old, by hunting party of three or more	2	2	Nov. 26	Dec. 1
Deer, Archery Season, any deer	1	1	Oct. 1	Oct. 26
Deer, Male with 2 or more points to an antler or a spike 3 or more inches long			Dec. 3	Dec. 15***
Deer, Antlerless			Dec. 17*** only	

FUR BEARERS

Skunks and Opossums	Unlimited		No close season	
Minks	Unlimited		Nov. 22	Jan. 20, 1963
Muskrats (traps only)	Unlimited		Nov. 22	Jan. 20, 1963
Beavers (traps only)—certain counties****	6	6	Feb. 9	Mar. 10, 1963
—remainder of state	3	3	Feb. 9	Mar. 10, 1963

NO OPEN SEASON—Hen Pheasants, Cub Bears, Elk, Otters, Hungarian Partridges, Sharp-tailed Grouse.

* *Wild Turkey Season*—Oct. 27-Nov. 24—in the Counties of Cameron, Centre, Clearfield, Clinton, Elk, Forest, Jefferson, Lycoming, McKean, Potter, Sullivan, Tioga, Union, Warren, and in those parts of Blair and Huntingdon Counties north of Route 22, and in that part of Mifflin County north of Route 22 west of Lewistown and north of Route 522 east of Lewistown, and in that part of Snyder County north of Route 522, and also in those parts of Bradford, Columbia, Luzerne, Montour, Northumberland and Wyoming Counties north and west of the North Branch of the Susquehanna River.

** *Hares* (*Snowshoe Rabbits*)—Counties Closed: Bedford, Blair, Cambria, Centre, Elk, Forest, Huntingdon, Jefferson, McKean, Somerset, Warren.

*** Except for Letterkenny Ordnance Depot Ammunition Area (Franklin County) where the season for Antlered Deer closes Dec. 14 and the season for Antlerless Deer is Dec. 15 and Dec. 17.

**** Counties of Lackawanna, Monroe, Pike, Susquehanna, Wayne and Wyoming.

Shooting hours for big and small game resident to Pennsylvania are 7 a.m. to 5 p.m., EST, every day of season except on the opening day of small game season, October 27, when hunting of any kind prior to 8 a.m., EST, is unlawful. One exception is the archers' deer season when the hours are 6 a.m. to 5:30 p.m., EST. The other exception is the hours for woodchuck hunting which are 6 a.m. to 7:30 p.m., EST, July 1 to September 30.

Game (including woodchucks and raccoons) may not be hunted on Sunday.



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Cover Painting by
Ned Smith

COVER: The Red Bird is truly a symbol of the Christmas season. Like Christmas ornaments, male Cardinals are often seen decorating snow-covered pines in many a back yard in Pennsylvania. The Cardinal's popularity is supported in the fact that it is the official state bird in Illinois, Indiana, Kentucky, North Carolina, Ohio, Virginia and West Virginia. In typical bird fashion, the male Cardinal far outshines the female in his striking coloration. However, her comparatively drab brown garb provides protective coloration as she incubates or broods youngsters in the nest. The pair on our cover is perched on mountain laurel, Pennsylvania's state flower.

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EDITORIAL . . .

Don't Kill Them With Kindness

PERHAPS from the beginning of time, man has felt sorry for wild creatures as winter snows and ice grip the outdoors. From the comfort of our living rooms, Pennsylvanians annually become sympathetic for the birds and animals who must face winter's worst assaults. Why being sorry for these creatures makes us want to feed them is understandable, and feed them we do.

Elaborate bird feeders are constructed and special wild bird foods for songbirds are prepared and sold by the carload. Watching songbirds utilize the feeders provides interesting entertainment but nothing brightens a gray winter day more than to have a pheasant feeding in our back yard or the sight of a flock of turkeys around a feeder. Have you ever thought that while brightening your own day, you could be making it a dark one for the object of your well meant efforts? Under certain conditions, winter feeding does more harm than good.

Although additional research is being conducted on winter feeding of wildlife in Pennsylvania, it is a known fact that feeding programs often cause unusual concentrations of game species. This increases the possibility of predation, disease, and parasites causing unecessary winter losses. Also, the loss of game concentrated at these feeding stations to unscrupulous illegal hunters cannot be overlooked. Furthermore, continual winter feeding makes wildlife dependent upon man for food, destroying the creature's self-reliance which is so important to its existence.

The majority of back-yard feeders are for songbirds and may be justified for purely aesthetic reasons. In regard to our game species, however, the Game Commission feels that it is advisable to feed them under only the most severe winter conditions. Normal snow accumulations do not interfere with the day-to-day feeding of game species. When snow depth in excess of 20 inches or extreme ice conditions prevail for an extended period or when there is a prolonged heavy crust or crusts, it may be necessary and advantageous to feed wildlife. Deer are able to forage in snow up to 20 inches and turkeys can find food in spring seeps which usually stay open under normal winter conditions.

When extreme winter conditions have warranted, the Pennsylvania Game Commission has spent from 50 to 90 thousand dollars for an emergency winter feeding program! Barring severe conditions which would make natural foods unavailable, this year's heavy mast crop and great abundance of other natural foods should eliminate the need for costly and unnecessary artificial feeding.

Understandably, winter feeding programs are an important off-season activity for most sportsmen's clubs. Winter feeding builds interest and keeps the club together over these nonhunting months. The Game Commission is well aware of this and the feeling of good sportsmanship derived from this activity. Nevertheless, the Game Commission also has the responsibility for proper and efficient management of our game species. To promote unnecessary winter feeding in a year with as much natural food as we have this year would neither be in the best interest of our wildlife nor our wildlife management program.

The Deer Headed for an Area Hunters Avoid Like Smallpox . . .

SURVIVAL IN DEAD MAN'S SWAMP

By Paul A. Matthews

HIGH on Catamont Ridge the wind howled and twisted through the hemlocks, blowing grits of snow like fiery sparks from a chestnut fire. The trees creaked and groaned, and even the granite ledges seemed to shrink away from the cold, while scrubby masses of mountain laurel clung precariously to the ledge with their gnarled branches bent nearly straight in the gale.

Ben Holcom knew it was no day to hunt. He had yet to see another hunter, but this was his one chance of the season and he didn't feel like wasting it in the comfort of his living room. So he pussy-footed along Catamont Ridge that morning, glassing the likely bedding places just like the Old Man had taught him years ago.

When He Was a Kid

The bygone years came tracing their way through his mind, the years when he was a kid ready and anxious to be taught the knowledge of still-hunting, stalking, and the careful placement of shots. He recalled the days in the squirrel woods when the hickories were yellowed and the scarlet maple and oak leaves tossed and danced and floated down from dizzy heights. When fat old graytails scurried along the ground, their cheeks bulging with nuts, not knowing that Ben's little 25-20 was tagging them. And then there were the frosty days when the rabbits didn't seem to want to hole, but run before the dog as though the whole affair was a game. Yes, those were the days; the days that leave a kid with memories and start him out on the right foot. Ben had often tried to visualize what might have happened had the Old Man ignored him. But the Old Man was made of better stuff than that. He had had his share of life and wanted to be sure that others had an equal chance.

Ben eased his way out on the ledge, the wind whipping at his face and eyes. He hunkered down behind the browned stub of what had once been a virgin pine, wiped the sleeve of his mackinaw across his eyes, and pulled his binoculars into the open. The swirling snow made everything look like a foggy dream. One minute he was able to see the full width of the bench below him and the next minute it faded from view in a maelstrom of snow. But Ben took his time. With the precision of a watchmaker, he glassed each clump of laurel, each hazel shrub that still clung to its few precious brown leaves, and the dark recesses beneath the overhanging hemlock boughs. That was the place the Old Man had always looked, and Ben had looked at a hundred different hemlocks that morning. But like the Old Man had said many years ago, "the deer cain't crawl into a hole an' if you look under enough hemlocks, you'll find 'em."

A Vague Form Was Sighted

He was right, too. On the far end of the bench under a low, scrubby evergreen, Ben picked out the vague form. It was just the right color, more gray than brown, and through the glasses, he could see how the deer had pawed through the snow, digging up a bed of dead leaves. He wasn't shivering in the mackinaw any longer. His heart started thumping out an irregular rhythm and his temples pulsated as the hot blood surged through his body. The wind picked at his eyes, and the form of the deer blurred through the glasses into another foggy dream. He





FOR A FEW SECONDS the cross hairs of the scope seemed to bob around a bit and then steadied directly over the foreleg, halfway between the brisket and the back.

wiped the tears away and studied the animal again.

The deer was fully alert now, its head twisted around and its ears feeling the air currents for strange sounds. Ben studied the rack. It wasn't the most perfect he had seen, but its heavy beams and whitened tines portrayed a buck that had been well fed by some thoughtful farmer. It was a chesty, thick-necked old-timer that probably knew every nook and cranny on Catamont Ridge.

Ben was cool now. The first excitement had worn thin and with a methodical deliberateness, he slipped his arm into the leather sling and sprawled prone on the granite ledge. For a few seconds the cross hairs of the scope seemed to bob around a bit and then steadied directly over the foreleg, halfway between the brisket and back. As Ben's thumb pushed the safety forward, he thought just for a moment of the critical view some hunters would take against a shot like this, shooting a deer in its bed! But the Old Man had always said, "you owe it to the game, Ben, to kill it as quickly and cleanly as possible. A lot of things can happen to a bullet 'tween the time it scats out of the muzzle an' the time it strikes home."

Ben sucked in his breath, snuggled a little tighter to the cold stock of the rifle, and pressed the trigger. As the stinging blast of snow whirled along the ridge, blotting out most of the bench, he knew the shot had gone wrong. It was just one of those unpredictables. He caught a flashing glimpse of the buck as it jumped from its bed and disappeared in the white beyond. About four feet in front of the muzzle, the bullet had clipped the twig off a small shrub. It was no bigger than a lead pencil, maybe not as big, but it had sent the bullet on an erratic course.

In his mind, Ben marked out the hemlock where the deer had been bedded. It took him maybe fifteen minutes to find his way off the ledge and to the spot, and by that time the blowing snow had partially filled in the tracks. He followed the tracks quite a spell until he was almost satisfied that he had made a clean miss, and then came upon the blackened clot of blood on the snow. From there on, there was a heavy trail of blood that gradually petered out and then another clot. There was no turning back now. The buck was badly wounded.

He Was a Crafty Old Buck

The trail led in and out amongst the granite boulders and ledges, through twisted masses of mountain laurel where the crafty old buck doubled back on his track, swung circles, or tried to cover up by taking a series of jumps that left only four ragged holes in the snow at thirty- or forty-foot intervals. He wasn't too far ahead of Ben, for the droplets of red hadn't begun to freeze, and on the level spots, where the buck was walking with a steady determination, the tracks were raggedly cut with a hint of dragging hooves. Ben kept his eyes far ahead in the woods, as far ahead as was possible, and once or twice caught a glimpse of the shadowy figure before a lace curtain of snow hid it from view.

Just as Ben had trailed wounded

deer before, the old buck wasn't exactly new to the game. He hurried fast enough to keep ahead of the man, picking a trail he knew would be difficult to follow and all the time bearing steadily in one direction toward an area that hunters avoided like smallpox.

He Knew He Was in the Swamp

Although the country was new to Ben, when he came to the twisted mass of hemlocks, laurel, huckleberry bushes and scrub oak he knew that he was in Dead Man's Swamp. On the map it was merely a vague, dotted circle with small clumps of swamp grass to depict its bogginess, but today it was a tangled jungle with puddles of water showing coal black against the whiteness of the snow. Ben hesitated for a moment, searching through the leaden atmosphere for some sign of the sun, and seeing only the snow.

He found that being in Dead Man's Swamp wasn't like being in the open woods where you could note individual landmarks like a deformed oak or an old log trail or creek. It was all the same. Each laurel thicket had the same number of snow-laden twisted branches tugging at his mackinaw, and the old buck seemed to go through the same clump of huckleberry bushes time after time without once crossing a previous track. The hemlocks were of the same height and he climbed over the same fallen tree a number of times. It was almost dark when he pawed his way through the last mass of laurel and spotted the old buck lying comfortable-like in the lee of a fallen hemlock. The rifle seemed to be alive the way it came up, but there was no need of shooting. The buck had run his last step and finally died in the same swamp where he was born. With a reverence known only to a sportsman, Ben stood quietly while the wind whipped a curtain of snow around the swamp, ushering in the darkness. Far off, a melancholy hoot-owl sounded taps.

In the eerie gloom of the swamp, Ben hog-dressed the buck, dragging it close to the tree trunk where it would be somewhat sheltered from the snow. The thought of leaving the woods in the dark during the height of a storm didn't enter his mind. Years ago the Old Man had warned him to "stay put" under such conditions and to get enough wood on hand to run a fire all night. Even in the darkness there was enough contrast between the snow and the much blacker trees to enable him to pick out standing deadwood and carry it back to the shelter where he broke it in lengths. There were plenty of dead limbs on the hemlock, but these he left as a last resort. They were close by and he would be able to find them in the dead of night when it might be too dark to wander around in search of other wood.

After accumulating a sufficient quantity to last half the night, he at-

ALTHOUGH THE COUNTRY was new to Ben, when he came to the twisted mass of hemlocks, laurel, huckleberry bushes and scrub oak he knew that he was in Dead Man's Swamp.



tempted to build a fire by using crushed hemlock twigs as tinder. The blue-tipped kitchen matches that he had waterproofed by dipping in paraffin sputtered and hissed in the wind, but they did burn with a greater certainty than the ordinary safety matches. However, the wind, whipping over the top ledge of the log, quickly extinguished the feeble flames of the hemlock twigs and he was forced to seek out a better tinder.

The Old Man had once showed him how to build a fire during a blinding rainstorm, but that was in the daytime when it was no problem to find a yellow birch with bark that crinkled and curled like so much confetti. Here in Dead Man's Swamp it was different. The hardwoods were merely black shadows in the night, and Ben made several circles around the camp site, feeling each tree trunk carefully before he finally located a birch. And then while on the way back to the hemlock, he stepped into what appeared to be a shadowy depression in the ground and plunged one leg nearly hip deep in cold swamp water. By the time he returned to the hemlock, his woolen trousers were stiffened with ice, and the wood he had so neatly piled was covered with snow.

First Twinge of Panic

It was then that he felt the first twinge of panic and seriously considered making a break for the dirt road in the valley. How far it was he didn't know, but if he cut a beeline in a northeasterly direction, he would be bound to hit it someplace. What the intervening country was, he could only guess, but from his best recollections of maps he had seen, Dead Man's Swamp lay in a vast hollow, bounded on the west by Catamont Ridge and on the east by heavily wooded country that was bound to have its share of granite ledges and jutting boulders. If he remembered correctly, the contoured map indicated that the eastern side of the mountain was extremely steep, almost perpendicular. After checking his compass, he gathered up his rifle and swung off into the darkness, aiming at a formless object that seemed blacker than the darkness itself. He counted the steps as he went, going as high as forty before he discovered that one dark blotch seemed to blend in with another. And then he found that he was off course. Or was it because he held the compass too close to the rifle barrel? Leaning the rifle against a tree, he stepped aside to take another reading but the match flared only for a brief instant before the wind sucked the flame away. When the third match was gone, he knew there was no chance of following the compass at night, and he headed back to the hemlock, bending low in order to see the vague depressions that marked his earlier tracks.

Settled Down for the Night

Back at the hemlock, he kicked away the snow and managed to build a fire by utilizing the birch bark and shielding it with his mackinaw until it ignited. The natural oil in the bark burned with a bright, furious flame, sending tiny tendrils of orange licking at the hemlock twigs Ben had crushed and placed at the bottom of the tepee-like structure. Soon, after little coaxing, a narrow tongue of flame that flattened out with the wind erupted from the apex of the pile, illuminating a circle comparable in area to that created by a single kerosene lamp in a vast auditorium, and casting distorted shadows that danced in the eerie glow like soulless apparitions from a world unknown. Ben Holcom was greatly relieved, and for the first time in several hours, squatted on his heels and relaxed, holding his palms to the fire and working the warmth into his blood.

As he watched the sparks snap from the flames and trail off into the night, he half closed his eyes and visualized the Old Man sitting across the fire from him. They had camped out many times back twenty-five or thirty years

ago, sometimes in rough weather. But then, the presence of the Old Hunter was enough to instill confidence and security in the mind of a lad. Now, it was the knowledge passed on over the flames of the old campfires that Ben depended upon.

Broiled Deer Meat

He cut the tenderloins from the buck, slicing them in small pieces that he impaled on a sharpened stick. As he broiled them, they swelled with color, emitting globules of juice that dripped into the flames, snapping and cracking like fried bacon in an open skillet. It was then that he heard three rifle shots coming from the west, in the general direction of Catamont Ridge. They were raggedly spaced, as though the man firing the shots was nearly paralyzed with the cold.

Ben leaned the stick against the pile of wood, snatched up his rifle, and fired a single shot. He counted to fifteen slowly and fired a second shot, realizing that quite often a man fails to establish the direction from which a single rifle blast may be heard.

There were no further shots from the west and Ben assumed that whoever had fired them was either out of ammunition or had failed to hear his two shots due to the wind and the groaning of the trees. So he waited for two minutes and fired the rifle again and this time he thought he heard a faint cry. It may have been the limb of a hemlock twisting under the weight of snow or two tree trunks rubbing together. He wasn't certain which. He counted off the next two minutes and fired his fourth shot during a momentary lull when the wind sagged to a stop. This time the cry was barely distinguishable.

After piling more wood on the fire so as to provide a light to guide him back to the hemlock, Ben plunged into the swamp. He worked his way slowly, avoiding the darker shadows that usually indicated black pools of water, and he looked back often to keep the fire or at least the yellow



"I THREW THE RIFLE AWAY. Those three shots were the last of my ammunition and I wanted to get out of the woods; the rifle was so much baggage."

glow in view. Each time he stopped he shouted, but the wind quickly dissipated his words and he began to doubt if he had actually heard the cry to begin with or had it been his imagination. Years ago the Old Man had told him that sounds in the woods are never as far away as they seemed. In fact, if you can hear the sound, the Old Man had said, the source is usually within sight.

Found the Man

Ben could barely see the glow of the campfire when he found the man lying face down in the snow, unconscious, weaponless and only a short distance from death.

It required the better part of fifteen minutes to half carry and half drag the hunter back to the fire where Ben proceeded to strip off his shoes. His feet and legs up to his knees were the color of white birch bark, and his right leg was badly swollen from a bruise on the shinbone. Evidently, Ben thought, he had fallen from one of the many ledges along Catamont Ridge.

Ben maneuvered the man close to the fire and then commenced rubbing the feet and legs with snow to drive out the frost and restore circulation.

By the time the legs started to thaw, the man was able to sit with his back against the hemlock and do his own rubbing while Ben once more broiled venison over the flames.

"What happened to your rifle? I heard you fire three shots just a short time before I went out looking for you."

"Threw it away. Those three shots were the last of my ammunition and I wanted to get out of the woods; the rifle was so much baggage."

Ben let his eyes droop and the soft expression of a half smile tugged at the corners of his mouth. He remembered vividly the time he and the Old Man had gone squirrel hunting for a Saturday morning and then stayed in the woods for a solid week. And the Old Man hadn't let him hunt out his meals ahead of time either. Before that week was finished, Ben had learned to appreciate the value of just a single cartridge.

"You must have had a lot of shooting today to get down to just three cartridges," he said as he rolled the stick in his hand to brown the meat on the opposite side.

"Never carry more than five," the hunter replied, "and I shot two of them this morning. A good hunter doesn't need any more, except in an emergency."

Ben grinned across the firelight. "That's what an old-timer once told me," he said. "Carry *one* shot for deer an' the other *nineteen* for an emergency!"

There was a long silence in which Ben's guest stared gloomily at the fire.

"You have a knife?" Ben asked.

"Nope."

"Rope?"

"No."

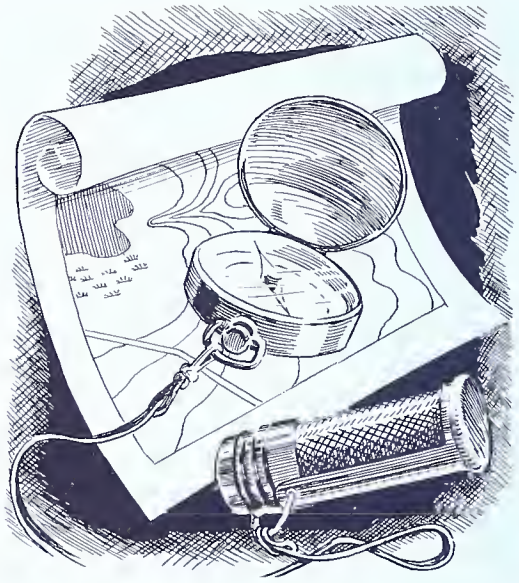
"Matches?"

"I did have some paper ones, but they blew out when I tried to light a fire. Some of them got wet."

"Have you got a compass?"

"Nope."

"And I don't suppose you have the slightest idea of where we are right now?"



HE HAD NOTHING. No knife, no rope, no matches, no compass, not even any knowledge of where he was.

The man didn't answer, just shook his head negatively.

Ben held the stick out so that his guest could help himself to a piece of hot tenderloin. "Right now," he said, "you're seated in Holcom's Cafe at the corner of Hemlock Avenue on Birch Bark Square, deep in the heart of Dead Man's Swamp. Help yourself to a free meal my friend, and if you enjoy your stay, be sure to pass on the good word. Maybe there will be others stopping in here to spend the night!"

Any amusement the hunter might have felt from Ben's joke was buried under a guilt of neglect. Ben was never certain whether it was the cold that made his eyes water or whether it was the snowflakes melting as they hit his face, but the hunter hobbled from his resting place to shake hands in the dimness of the campfire. Any words or comment would have been superfluous, for they both understood.

The years flicked by and deer season followed deer season into obscurity, but the bitterness of that cold night in Dead Man's Swamp never faded. Ben remembered for many

years their struggle in skinning the frozen buck and how they thawed the hide before the fire and cut it into strips for snowshoe webbing. The snowshoes had been clumsy and awkward, and it had taken them a full day and part of a night to make them. But they had carried them the twenty miles from Dead Man's Swamp to the nearest town. The part they had played on that one trip, more than earned them the reservation over the mantel of the fireplace.

And in the succeeding winters, when the snow was piled window-ledge-deep and the alcohol had shrunk through the bottom of the thermometer, Ben stood before the crackling logs and studied the crudeness of his handiwork. The rawhide lacings were stretched to a transparent thinness and the wood had cracked along the grain from the warmth of the room. Their structure somehow reminded Ben of the Old Man; the way he had done a job years ago. Somehow, the Old-Timer had walked across Ben's early life, leaving fragments of knowledge and woods lore that marked a pattern with the same clarity the snowshoes had etched tracks in the snow. Sure, the drifting snow had covered the tracks, and drifting time had covered a lot of the Old Man's teachings. But deep down, under the softness of everyday life, the Old-Timer had left an indelible impression. The bits of knowledge had been stretched thin with age, like the rawhide, but they had lashed together the gangling bones of a lad to form the solid frame of a man.

Portraits of the Season

December

A PARTRIDGE berry lies beneath a snow-powdered cap, but the sharp eye of the ruffed grouse sees it and it will soon be transformed by some sort of tetraonid alchemy into warm flesh and blood. The grouse leaves a caterpillar trail of feathered footprints that bind the forest into a lacework of white. Days are each one shorter, but comes one December day that halts the sun in its track and starts it north again into our mountain woods. This matters little to the December deer who is still fat from the fullness of autumn. His starving time, the bare-branched early spring, is yet to come. And he shakes his head to get rid of the one remaining antler that now burdens him strangely. In the swamp nothing moves save the grasses that scratch the snow in blue-shadowed arcs; nothing lives save the puffed birds in the trees above and the lumped wood frog buried deep beneath swamp roots. Nothing else? This is the snowshoe swamp and he hides himself well, look again. A ghostly rabbit, whose black-tipped ears only intensify the purity of his coat, he squats in huddled silence under a low hemlock. Soft snow starts to glisten under the cold red rays of sunset. This is the time when all life draws into itself to wait as seed, or sperm, or spore or egg. The environment tightens its grip on everything alive, while the forest and those of the forest wait, but in that waiting—survive. Many do not and death comes in varied forms—pinched bellies, streaks of blood in the furrowed snow, shrill squeals that pierce the crackling silence of a December night—truly the year's end. But even as snows pile deep above, the hooded skunk cabbage lies ready to thrust its way through the forest muck, should the gods of winter give it the slightest advantage.—*John Guilday*



THE DEER – OF 350 YEARS AG

By John Guilday
Carnegie Museum
Pittsburgh, Pa.

WHAT is surely the largest sample of original Pennsylvania white-tailed deer, from the time interval A.D. 1600-1625, has recently been made available for study by the State Historical and Museum Commission. The collection consists of bones, teeth, and some antlers, all more or less fragmentary, of at least 188 bucks, does and fawns. They were excavated at the Eschelman site at Washington Boro in Lancaster County by an archaeological team from the State Museum. The Eschelman property was once part of an early historic village of the Susquehannock Indians, and Indian refuse occurred in some areas of the site to a depth of nine feet.

All of the deer involved were collected within a 25-year span and all from the Lancaster County area; so, for all practical purposes, they can be considered part of a single population. The lower jaws of a deer are not fused as they are in man, so there are two jawbones per deer for a total of 362 jawbones. The Eschelman collection was composed of 174 left mandibles and 188 right. Only the 188 right mandibles were studied, in order to eliminate duplicating an observation.

A hundred and eighty-two jawbones were complete enough to assess the age of the deer at the time of death by the degree of wear on the molar teeth. Aging criteria for modern deer jaws have been largely worked out for specimens killed in the hunting season. The Eschelman deer were apparently killed by the Indians in any season, so that many of the molar series wouldn't quite fit into modern age classes. These doubtfuls were simply assigned to that class which they most closely resembled. Diet may, at times, influence the rate of toothwear (the sand-in-the-spinach effect) and the Eschelman deer may have enjoyed a somewhat different diet than do their modern counterparts. (They could eat chestnuts, but not farm crops, to give one example.) But age classes based on toothwear in modern white-tailed deer, even if they do not apply to the Eschelman deer in terms of exact chronological equivalence, cannot be too wide of the mark. The diet may have changed in certain particulars, but it is still essentially the same—that of a temperate forest herbivore.

Two factors influence the age composition of the Eschelman deer sample to an unknown extent, and probably prevent it from demonstrating the true relative mortality rates of the various age classes, especially the juvenile rate. One is the extent to which the Indian hunters selected their deer. Even assuming that the Indian took the first target that presented itself (which doesn't appear likely, as will be brought out below), there must have been many cases where a choice presented itself—a doe accompanied by fawns for instance. If the doe were taken and the fawns escaped to be brought down by wolves at a later date, this would hardly be expressed in the Eschelman collection. The second factor is the scavenging of the refuse heaps by packs of Indian dogs. The village dump was, apparently, a constant source of food for these animals. Many bones show heavy gnaw-marks,

or the erosive effect of digestive juices. Deer toe bones, especially, appear to have been eaten and subsequently voided, presumably by dogs. The soft bones of a young fawn would fare much worse at the hands (teeth?) of a scavenger than the denser bone of an older deer, and could easily be destroyed altogether, and so be missing from the archaeological record. There is thus a bias, and perhaps a substantial one, that operates to cut down the figure for the juvenile segment of the Eschelman deer population, as represented by the jawbones.

The age class composition of any deer herd varies with the season of the year. The age span is smallest in the early spring, largest in summer, with the addition of the year's fawn crop. We have no way of knowing if the Indian hunting pressure was seasonal, or constant the year around. Fawns of varying ages, from a month on, and the presence of shed and unshed antlers make it seem likely that hunting was pursued through the greater part of the year, but it may have been rigorously pursued in the fall. (17 of the 21 fawns recorded from the collection were about 6 months old.)

Because of these factors, each of which influences the sample to an unknowable extent, the interpretation of the results cannot be carried too far. But several conclusions can be drawn from them. The average age of the Eschelman deer herd appears to have been considerably older than that of



a modern deer herd, even if fawns are omitted from the picture. Apparently the Susquehannock Indian hunter was more selective than the average modern sportsman, and the deer chosen most commonly were those adults in the "prime." The Indian, like any modern shopper, wanted to get the "most for his arrow," and, with a knowledge based upon the accumulated observations of generations of hunters, he seems to have chosen his prey, perhaps not in every instance, but often enough to influence the figures for the various age classes. The most common age encountered in the collection was from an estimated two to four years —young, prime adults.

Took Their Choice

This implies that the Indian, even though hunting out of necessity, was under no compulsion to take the first deer that presented itself, but could afford to pick and choose. Hunting pressure on the herds must have been much lighter than in modern Pennsylvania. This also implies deer herds large enough to withstand, not only Indian predation, but such efficient deer slayers as the wolf and the mountain lion. The deer herd was in perfect balance with its environment. In spite of predation, deer survived, not to their biological potential (which is a thing rarely achieved in nature—perhaps 20 years of age in the case of the white-tailed deer), but to their ecological potential of perhaps 7 years at most. Beyond this point vigor begins to wane and they are swiftly culled out by predation, or the rigors of a forest life. This situation would allow the bucks to reach their full physical potential, thus eliminating many inferior sires from the breeding program of the herd by rutting fights for possession of the does. Thus by the natural selection of superior breeding stock, the future quality of the herd is insured. Natural predators culled out the weakest, and bucks fought it out for herd possession.

DEER HERDS WERE LARGE ENOUGH to withstand hunting pressure from the Indians, and predation from such efficient deer slayers as the wolf and the mountain lion.



Contrast this picture to that of a modern deer herd. Bucks are eliminated at a very early age owing to heavy, selective hunting pressure. Stanley E. Forbes (GAME NEWS, November, 1959) pointed out that 60 per cent of the legal, antlered deer killed during 1958 in the state were only 1½ years of age, and that less than 4 per cent over 3½ years old. No buck, regardless of his potential biological superiority, can survive long enough in this setup to influence the heredity of the deer herd, any more than could countless bucks of inferior quality. They are harvested before they reach the peak of their prowess and ability to get and maintain a harem.

Doe Survives Longer

The doe is not subjected to the same hunting pressure as the buck, and survives to an older average age. Using Forbes' figures again, 64 per cent are eliminated before reaching their third winter, and 15 per cent reach the age of 5½ or older. But after In-

diana's first deer season in 58 years, in a population that had ostensibly enjoyed complete protection through the years, it was found that only 15 per cent of the adult deer killed were over 5½. So that it would seem that the lack of hunting pressure has little effect on the average life expectancy of a deer. What hunting does effect is, again, the heredity of the herd. The non-selective hunter, harvesting animals regardless of their biological potential, has replaced the natural predator, the wolf, the panther, etc., who selects the genetically undesirable (not consciously of course but only because inferior animals are more easily caught).

Hunting Pressure Light

The fact that the Indian hunter was highly selective, shooting the best of the crop, for at least 5,000 years in this area, was apparently negligible as far as the deer herd was concerned. Hunting pressure was too light to influence the picture one way or another. And in spite of such efficient predators as wolves, or perhaps because of them, the herd prospered in balance with its environment.

It seems paradoxical to state that hunting pressure (on bucks) is too intense for the good of the herd, when browse-lines in the woods and carcasses of winter-starved deer point up the fact that there are more deer than the land can support now. The obvious answer of protecting the bucks, while at the same time selectively reducing the herd would be as unwelcome as it would be impractical. The deer herd is not, and cannot be managed as it was in a wilderness world. It is a compromise situation. What every hunter wants, of course, is the impossible—a ten-point rack behind every bush—quantity *and* quality. But the ecology of a deer herd will not permit that, and it is the delicate business of the professional game manager to try to equate predator (deer hunter) and prey (deer) in what is a highly unnatural situation. In the world of nature, the numbers of the predator are regulated by the numbers of the prey, and not vice versa. And the deer hunter of Penn's Woods can only close his eyes and dream of the idyllic days of 1625 when a hunter (*a* hunter, not 150,000 hunters), could bring down a 12-point, 250-pounder, in his own back yard. But at the same time he can reflect upon the fact that there are probably more deer in the state now than there were in 1625—maybe not as big, but who eats the antlers anyway?

White-Tailed Deer—Adult Age Class Composition

Antlered, 1958		*Female, 1958*		*All, 1600-1625*	
1½	60%	1½	28%	1½	12%
2½	23%	2½	26%	2½	19%
3½	13%	3½	19%	3½	25%
4½ or more	4%	4½	12%	4½	14%
		5½ or more	15%	5½	12%
				6½	12%
				7½ or more	6%

Female Deer With Antlers

Scientists have actually found female deer in Pennsylvania sporting antlers. This unusual condition is being studied by John C. Donaldson from the University of Pittsburgh Medical School and J. Kenneth Doutt of Carnegie Museum. Any hunters killing such a deer are urged to call Dr. Doutt collect at Pittsburgh, MAyflower 1-7300, or report this unusual discovery to the nearest State Game Protector.



PGC Photos by Delbert Batcheler

THE NONRESIDENT CONTRIBUTES to the economy of many a Pennsylvania mountain town. Sporting goods stores, grocery stores, restaurants, and motels all receive benefits from the nonresidents in their area.

The Out-of-State Hunter Helps the Economy of Many a Mountain Community . . .

Don't Condemn the Nonresident

By Gerald C. Blinzley
Warren, Ohio

DURING a recent hunting trip to my hunting cabin in Venango County, Pa., I happened to stop at a nearby grocery store for a few needed items. In these rural areas, as everyone knows, the local store seems to be the evening meeting place for all the community hunters. Here, they discuss the day's hunting experiences and this night was no exception. The store was nearly filled with hunters and would-be hunters, many of whom were sitting around a pot-bellied stove in the corner. I made my way to the counter and paid for the groceries, 10 gallons of gasoline, and 5 gallons of fuel oil. The bill came to about $12.

After paying the clerk, I turned to leave when one of the boys in the back remarked quite loudly, "Nonresidents should have to pay one hundred dollars for a license!" Realizing that the remark was for my benefit it was extremely difficult to ignore it and keep moving. But nothing could be gained from a free-for-all over this highly controversial subject so I went out the door and to the car.

I should like, at this point, to present a few pertinent facts in defense of the nonresident. For an example, I will use my own personal case to make my plea a little clearer.

The land under my cabin was purchased from a local resident for $300. The building was built from lumber and materials bought in a nearby town for about $900. The wiring was installed by another local resident for $90. The electric bill runs about $4 a month. From time to time more items are required to maintain the structure, again purchased from nearby towns.

Property taxes run about $40 a year, a major part of which goes to the school taxes for the township. My nonresident hunting and fishing licenses total $27.50. In my travels to hunt,

fish and camp, I average about 35 excursions to Venango County a year. This is a distance of about 170 miles round trip. A conservative estimate for gas, fuel oil, food, and odds and ends would be at least $12 each time I go to the cabin. This totals to about $420 a year based on the 35 trips. Including licenses, taxes, electric, and cost of grain for the winter feed program the expenditures add up to a neat $500 a year. I am only one nonresident but when you multiply the above by the number of other people doing the same thing it amounts to a staggering total. Some of them get by for far less and yet others spend more, so you can figure my case is about average.

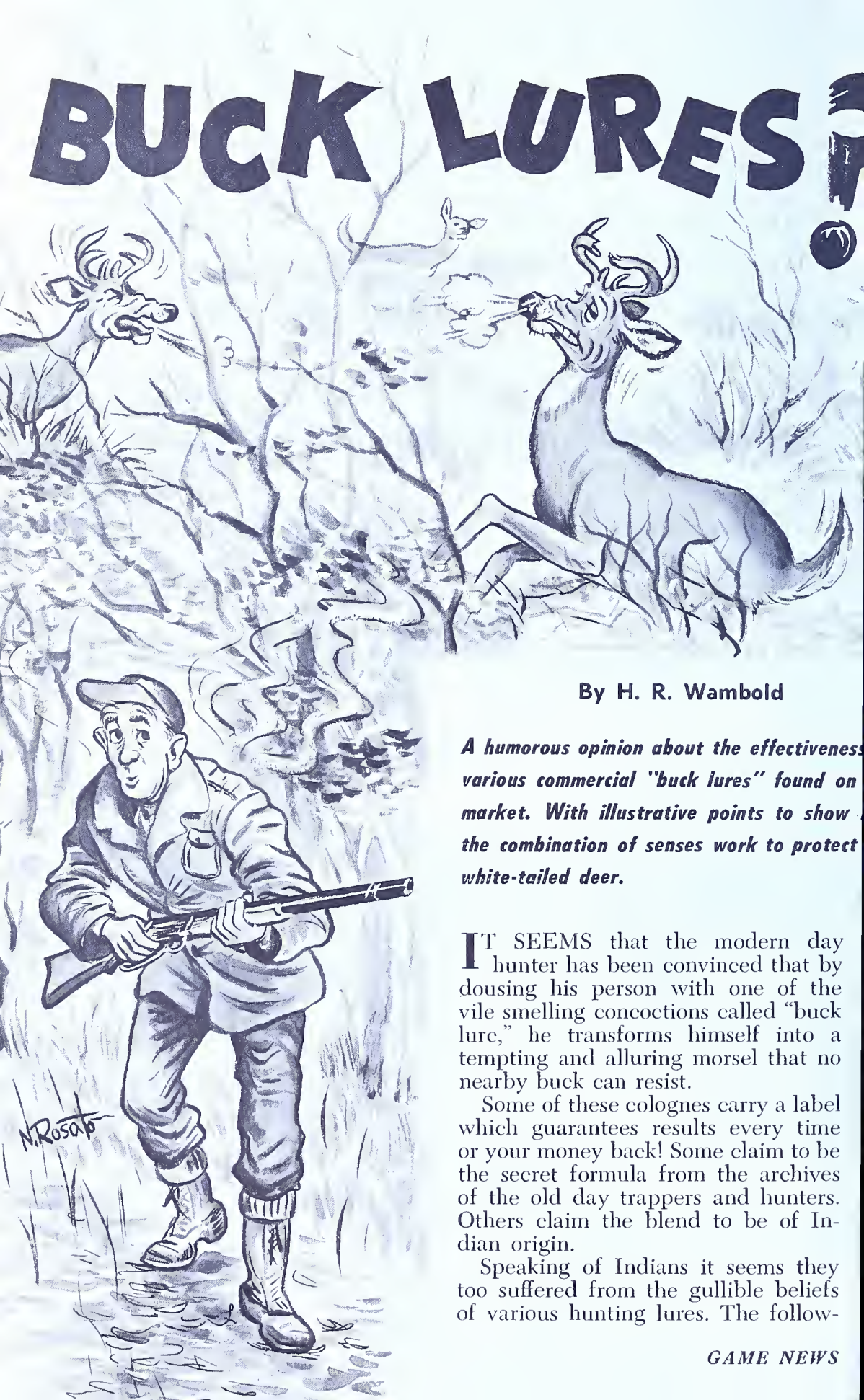
Let's examine the record! The following figures are extracted from a report from the Pennsylvania Game Commission covering the 1961-1962 Fiscal Year: Nonresident Hunting Licenses totaled $921,602.40. Special Nonresident Regulated Shooting Grounds Licenses $8,335.35. This is what the outsider has done on a statewide basis, and a similar financial boost is true on the local level. Many of the beautiful little towns tucked away in the Pennsylvania mountains rely on the out-of-state sportsmen to keep their economy stable. Visiting hunters provide a great portion of the income so important to these rural people and many are, to a great extent, dependent on this revenue for their livelihood.

For the benefit of those who are inclined to resent sharing their great outdoors with us, we nonresidents (particularly those of us who come from states like Ohio where game populations have been reduced to an all-time low) deeply appreciate the hunting and fishing opportunities afforded to us by Pennsylvania. However, in view of the above facts, we hope that the local people will think of us in the future as visiting sportsmen who are contributing to the growth and advancement of their economy and their community as a whole.

NONRESIDENTS USUALLY DRIVE a good distance to get to their favorite Pennsylvania hunting area. This means that gasoline stations will sell more gasoline due to the presence of these out-of-staters. The author drives 170 miles round trip about 35 times a year. That's a lot of gas.



BUCK LURES!



By H. R. Wambold

A humorous opinion about the effectiveness various commercial "buck lures" found on market. With illustrative points to show the combination of senses work to protect white-tailed deer.

IT SEEMS that the modern day hunter has been convinced that by dousing his person with one of the vile smelling concoctions called "buck lure," he transforms himself into a tempting and alluring morsel that no nearby buck can resist.

Some of these colognes carry a label which guarantees results every time or your money back! Some claim to be the secret formula from the archives of the old day trappers and hunters. Others claim the blend to be of Indian origin.

Speaking of Indians it seems they too suffered from the gullible beliefs of various hunting lures. The follow-



ing was noted in the Agricultural Almanac for 1962, quote: "the root of a variety of aster is ground into a powder and smoked by the Chippewa Indians to attract deer. The Indians say the smell of the smoke resembles the odor of a deer's hoof, and one who smokes the aster root will find good hunting." We shall refer to this later in our remarks.

Of the many so called "buck lures" available today, most seem to fall in two distinct categories—musk and apple odor. Most of these put the old prohibition day bootlegger to shame.

Many years before our time to breathe the crisp clean air of the outdoors, ancient man realized that he smelled. This human scent was discovered to be a handicap when hunting for his supply of meat. By trial and error he realized that the only effective method he could employ to avoid detection through scent, was to keep downwind of his quarry. By doing so he found that his smell was carried away from the highly sensitive nostrils of the game.

Today many hundred years and great hunters later, this foolproof method still is the only guarantee of getting within range of the animal. Whether it be a whitetail in Potter County, a Bengal tiger in some India province, a majestic Rocky Mountain Bighorn ram, the brute giant Kodiak bear or a water buffalo in Africa, the successful hunter is always downwind. Unless he finds himself the participant of a charge!

There are many famous big game hunters who have in their colorful past collected a variety of trophies of enviable record. Having the good fortune to know a few such men, none of them rely on any "buck lure" or other artificial human "de-scenters." Instead they respect every wind current with the reverence of an experienced hunter.

Among the various claims that the manufacturers of these liquid lures list in common is that the blend will attract deer. Many claim a formula of deer musk secretion which is supposed to make you smell like a lovelorn doe.

But those who favor the apple tang must admit that the theory of attraction cannot possibly fall in the romantic category.

Apples a Choice Food

We all know that the apple is a choice food in the diet of the deer during the fall months. Most of the known varieties of this fruit are found among the counties which are a part of our deer habitat.

I eat my share of apples and have done so since being a kid. In the forty odd years of enjoying the forbidden fruit I could never associate the apple whether fresh or rotten with any smell similar to the bottled elixir.

We all know that the white-tailed deer does not have any musk glands on any part of the body but the lower legs. Nature provided such locations for the purpose of laying a ground scent trail. This enables the trailing deer to pick up the scent where contact with the ground and low growth has occurred. It is also known that urine is the major agent used during the rut for leaving a calling card for other deer in the vicinity.

The amazing part of it is the fact that the deer must come within close range to this area in order to scent the urine, actually a matter of feet instead of yards.

Tracking Tactics

Like all females, doe deer may decide to play hard to get. When this happens he will employ tracking tactics, and trail her scent left by her musk glands on the ground. With his nose to the ground he will follow like an overgrown hound. The closer he gets to her the more excited he becomes, finally becoming quite reckless and forgetting normal precautions he many times winds up on some hunter's den wall.

I had the good fortune to drop a buck while occupied with trailing a doe in Nova Scotia one year. He was a beautiful animal and backed with many years of wisdom, but his utter disregard for his personal safety during his courtship was his undoing. With his nose in the leaves he worked towards us. When he became aware of our presence he stopped, but never lifted his head – reluctant to break from this scent he stood looking at me out of the top of his eyes. Needless to say he died of a broken neck instead of a broken heart.

Here is an example of the true purpose of the musk gland of the deer, and the manner in which another deer may pick it up and follow. Not by being wafted along on a breeze, but by sniffing the prints of the hooves where the scent is applied. Here is where the Chippewa Indians must have goofed, unless they scattered the ashes of their pipe when finished.

To my knowledge no one has as yet decided to blend a lure mainly of deer urine. Although I am sure such a mixture could not be more obnoxious than some of the present "bottled in bond" vintages.

Let us not forget that along with that highly sensitive smeller that most big game animals possess, they do not rely entirely on this means of detecting danger. There are two other important senses with which danger is detected—sight and hearing.

Many hunters will agree that in many cases the scent of man alone will not always spook deer. By the same token most will agree that a combination of human scent and unnatural noise, or visual sight of the hunter will spook most bucks.

Deer in agricultural areas become used to human scent as well as the sight of humans. Noises are many, some machine-made and others man-made. Rest assured these are properly interpreted by the deer being well aware which spell danger.

Unusual movement in the terrain within visual contact will cause immediate study on the part of Mr.



IT IS VERY UNLIKELY that any buck lure will attract deer in this manner. In fact, the most effective method is not to create a scent, but to keep downwind and avoid any scent problems at all.

Whitetail. Bright colored objects are rare in normal cover of the forest or field. It is my opinion that the deer sees a colorless world in which only various shades of intensity in grays, blacks, and whites exist.

Therefore the bobbing head of the hunter with the bright yellow hat is quickly detected by the deer, both in movement and intensity of color. Reflection of sun rays on the limbs of a bow or the barrel of a rifle are unnatural where no water or ice exists. Deer are aware of this fact, as well as where water exists in their domain.

How many times the hunter watches that white flag bounce away as he realizes that the deer was within close range carefully watching him for some telltale movement or noise.

Sense of Sight—Strange Objects

Pick a field where deer feed regularly in the evening. Build a blind of evergreen boughs or branches large enough to hide a man. Place it well inside the opening, pick another spot and watch with binoculars. As the deer work into the field they will spot this new addition to the terrain. They may not enter the field, but if they do, it will be with extreme caution. The older doe will advance stiff legged, stomping and snorting as she circles. If they decide to feed rest assured it will be done with extreme nervousness. The slighest additional noise or suspicious movement will trigger the entire bunch.

Sense of Hearing—Strange Noises

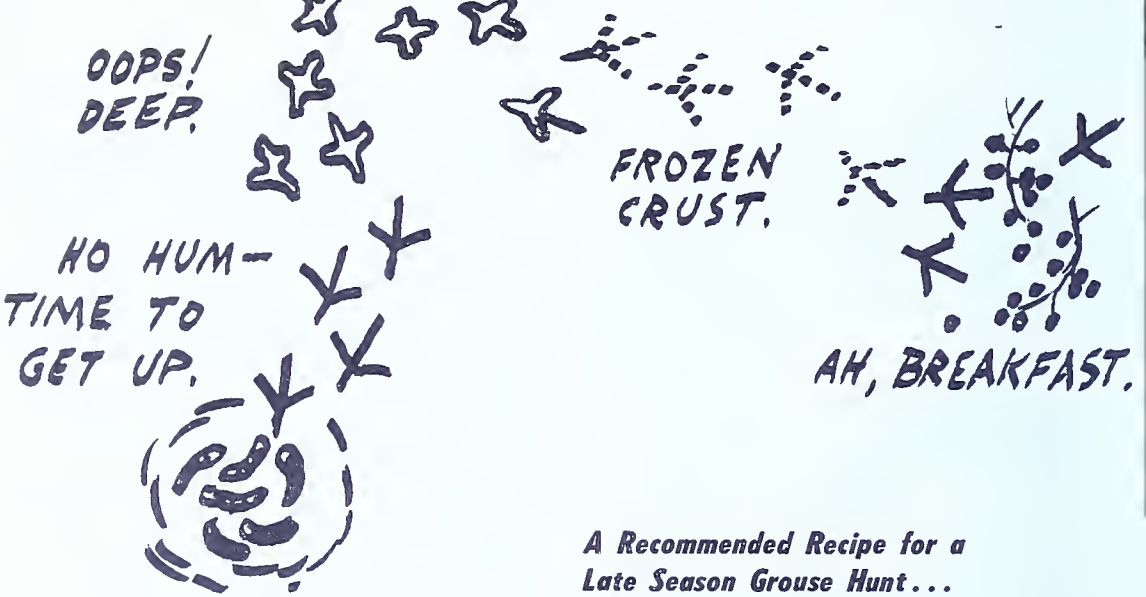
Ever sit in a tree for hours waiting for deer to come under you for pictures or bow hunting? The click of the camera shutter can spook the deer, as well as the rubbing of your clothes as you get into shooting position.

The bow hunter has without doubt many times loosed an arrow to have the deer jump it. This happens when the twang of the bowstring is audible to the deer. Sharp and unnatural it actually startles the deer into immediate reflex action. Stop and think about conditions when this happened—calm and quiet. If slightly breezy or raining, the sounds will muffle the bowstring twang, and very seldom will the deer jump your arrow.

Ever stood on watch for a long period and go into a crouch when you spot a deer approaching? Then as the deer works within 20 to 30 yards and you rise slightly to draw your bow, a knee joint cracks loudly! There is that whitetail staring right down your shaft, and off he goes!

So don't sell that buck short by any means, he will never be fooled by some mail order brew that smells like the outhouse at a skunk's convention. Until they offer added accessories of deer blinders and ear plugs along with the potion—save your money. For the only sure-fire buck lure results is the buck you spend buying it!

I don't mean to sound bitter about this, but like that old boy Shakespeare or some other cat said, "a rose by any other name would smell as sweet"—the same applies to us humans. We will smell regardless of what anti-b. o. we use! So let's face it—if we must smell let's smell like a hunter!



A Recommended Recipe for a Late Season Grouse Hunt...

The Christmas Grouse

By George Bird Evans

MAY I recommend a recipe for a Christmas grouse—and a grouse shot during Christmas week deserves that distinction. Have it served in your favorite way. My recipe concerns not the preparation but the taking of the grouse with the condiments that make it the event it is.

You should, of course, have snow. And an appetite for rough going that calls for youth or an equivalent lack of judgment. It can be deep snow under pewter skies or a mere sugaring on crisp-frozen leaves. Or there can be brilliant sun on snow so soft it takes a grouse track clearly enough to read his fortune. There should, to my thinking, be a setter. You may prefer a pointer or a Brittany but he or she must be your favorite even though he is there only in your memory.

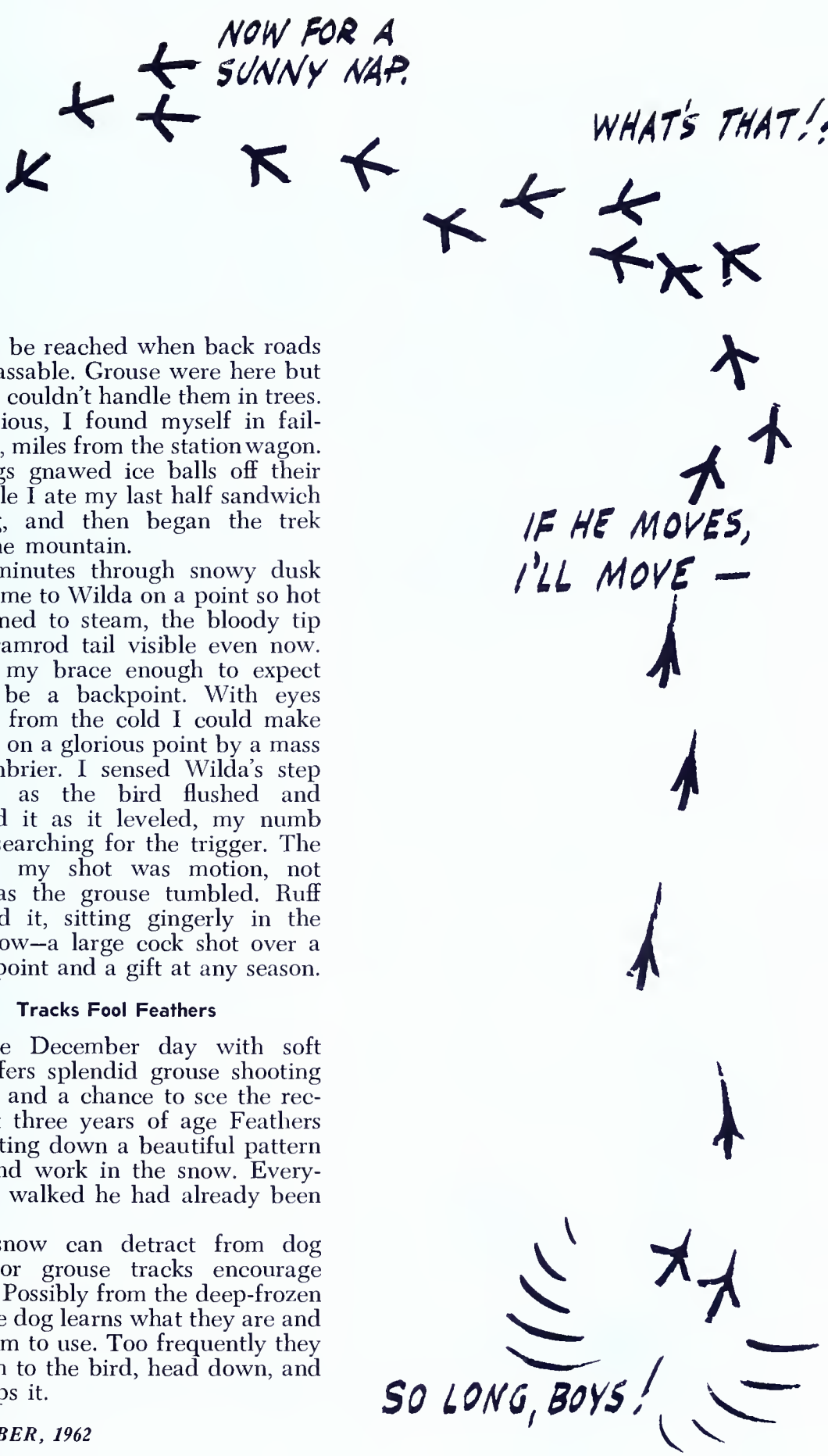
Back home, as a final ingredient, I like to collapse on a sofa before a roaring fire. And right about here there should be a spot of sherry. In this blissful state I can't be content to dwell on the delight of the one day, alone. Instead, I must share with you a mixed bag of snowy hunts.

Save Some for Snow Hunting

I remember one bitter afternoon when only a half-pint thermos of hot tomato bisque and the right clothing enabled me to stay out at fifteen degrees. Long ago the Chinese made two contributions to my shooting pleasure: gunpowder and the principle of multi-layer clothing. Removable sweaters and shirts under a light jacket offer a combination adjustable to exertion and time of day. Two pairs of pants turn melting snow better than one, and waterproofed deerskin gloves large enough to take woolen liners help you enjoy cold weather shooting.

With grouse covered up, I had missed several that exploded from snowy hemlocks like puffs of white smoke. One yearling landed in a tall sapling and craned its neck at the dogs who were unaware of the bird above them. As they moved on, the grouse "quirped" at me and planed off. I can't try for a bird that has looked me in the eye though I usually miss tree take-offs.

I save coverts where I have located birds earlier for snow hunting; coverts



that can be reached when back roads are impassable. Grouse were here but the dogs couldn't handle them in trees. Overanxious, I found myself in failing light, miles from the station wagon. The dogs gnawed ice balls off their feet while I ate my last half sandwich standing, and then began the trek down the mountain.

Ten minutes through snowy dusk and I came to Wilda on a point so hot she seemed to steam, the bloody tip of her ramrod tail visible even now. I knew my brace enough to expect this to be a backpoint. With eyes sluggish from the cold I could make out Ruff on a glorious point by a mass of greenbrier. I sensed Wilda's step forward as the bird flushed and glimpsed it as it leveled, my numb fingers searching for the trigger. The echo to my shot was motion, not sound, as the grouse tumbled. Ruff delivered it, sitting gingerly in the deep snow—a large cock shot over a double point and a gift at any season.

Tracks Fool Feathers

A late December day with soft snow offers splendid grouse shooting weather and a chance to see the records. At three years of age Feathers was putting down a beautiful pattern of ground work in the snow. Everywhere I walked he had already been there.

But snow can detract from dog work, for grouse tracks encourage trailing. Possibly from the deep-frozen scent the dog learns what they are and puts them to use. Too frequently they lead him to the bird, head down, and he bumps it.

Feathers did just that, intent on the dotted line, but the grouse gave me a look at it that repaid the lost chance to shoot. It ran ahead of my erring boy—its neck extended and with ruffs spread in a black disc completely around its head. I had always admired Lynn Bogue Hunt's paintings but had suspected exaggeration in his grouse. I made a silent apology to Mr. Hunt.

At an ancient sawmill site I stepped onto the rotting sawdust, black under the snow. As I did, a grouse bored up. I mounted, realized I hadn't released the safety, shoved it forward with my thumb and, swinging through the bird, fired. I think Feathers caught it before it hit the ground. I never had a bird delivered to me so promptly. We observed the occasion with lunch.

During the afternoon we came to a maze of tracks that proved to have been made by one bird. If it has the urge to walk, one grouse can leave tracks like three or four. I retraced my footprints and found that I had circled within feet of this grouse without flushing it.



A PARTRIDGE IN A BARE TREE

Returning by the valley, Feathers and I followed the path in the faint light of the snow. Passing a tangled grapevine I heard a flutter as a grouse flushed, offering a silhouette against the dull sky. It was like the ghost of a grouse I had killed at this spot one previous season. This time my gun only made a pretty pink flash in the dusk.

Empty-Handed but Rewarded

A certain December 26 stays with me, not because of any bird I shot, for I came home empty-handed, but for the impressions that remain:

Back roads with newly plowed snow, yard-high, along the sides.

One ridge I climbed rewarded me with a mass of bittersweet, Christmas-red against a gray sky, and a fence corner full of greenbrier loaded with blue berries and snow.

I waded a field into the teeth of a 10-degree gale that funneled up the wind tunnel of the gap, the dogs and myself leaning like the old fence posts. I know why Napoleon carried his hand tucked into his bosom after the Russian Campaign.

I learned this day to never bring a banana in sub-freezing weather unless you have a taste for brown banana mush. If my wife, Kay, had been along she would have built a lunch fire.

Hoping to find grouse concentrated in rhododendron on a day like this, I slithered down a hillside. Ever notice that forbidding footing occasionally seems easier when covered with snow? Near the stream I came to an opening that appeared to glow red in a streak of sunlight breaking through the clouds. It was an enormous patch of teaberries with hundreds of vivid red berries in the windswept snow.

Climbing a log road I paused for breath and a view of the landscape



with its timber etched in scratchy pattern. I heard a squirrel bark and saw him scuttle up a tree against a green evening sky—higher, and out onto lacy twigs that bent under his weight. I barked in my best squirrel voice and it seemed to unsettle him. Gathering himself, he took a desperate leap toward a hemlock yards away. He missed and tumbled through successive tiers for twenty feet. A light limb caught him crosswise bending him double. He writhed 'round and began to climb the trunk. I lost sight of him in the dense header branches. What courage.

At the car the hot coffee was heavenly stuff both to my innards and to my bone-stiff fingers grasping the cup.

New Snow and Old Friend

There is no more pleasant time to have a shooting guest than during Christmas week, provided you can show him birds. I had talked to a neighbor who said he had moved "hells of grouse" while deer hunting on a certain ridge. Deer hunters seem to find them—if they haven't counted the same birds over and over on a large drive.

The night my guest, Les, arrived our long spell of open weather ended and by morning snow clung to everything. We stopped at several crossroad stores to find more snow-worthy footwear for Les. I find nothing equals insulated rubber pacs, but for a man recently thinned-down to 237 we had to settle for size fourteen arctics.

The woods was dense as early October but the foliage was white. A Kleenex will wipe your gun rib clean of snow and an old whisk broom will remove kicked-up snow from your pants before it melts. Our three setters were covering a lot of ground but for the first hour we moved nothing. At last I heard two muffled reports from Les's 16-gauge. He's an excellent shot but when he misses he only grunts. I must cultivate such restraint.

For the next ten minutes we moved grouse from trees. One moment there was a white tree, the next a segment of snow sifted down and you knew a grouse had gone. We managed to see enough flushes for each to shoot a bird. Special caution is essential when shooting in cold weather with a companion, for shot spatters off frozen branches. I've seen evidence of this in snow.

Abruptly, our action ended. We came to a rocky basin with snow too deep to see where we stepped. I heard Les call and found him, gun unloaded, with one foot wedged between two rocks and a root so that he couldn't reach his arctic. There is nothing humorous, except in retrospect, about a man his size in that

predicament. After some prying we got the arctic unfastened and his foot loose and then took time for lunch.

As we had driven toward the mountain we had noticed a belt of glistening white on the higher benches. We were in it now, each twig swollen with ice. We were getting into a lot of grouse when snow-heavy clouds pressed darkness down early and we had to turn back, the price of winter shooting.

An angry streak of red was showing beneath the cloud cap when we reached the car. I'd had small hope of finding more than a few grouse in that much snow. We had moved twenty-two for thirty-four flushes. Les is a delightful shooting companion. I noticed only one flaw in his performance that day: a tendency to veer off course. Perhaps his new arctics were out of alignment.

Game Bag Full of Memories

Memories of gunning in snow have a way of getting shuffled out of chronological order:

A low-skimming grouse that sailed over the brow of a snowy hill after my shot, with only a splash of powdery snow to reveal that it had fallen. Shadows made the retrieve and moments later the sky turned blood-red in winter's sunset.

Grouse tracks zigzagging up a snow-dusted road as if the bird were drunk on frozen grapes.

A frigid afternoon when, twice, my gun discharged before I quite got it to my shoulder. What seemed the result of numb fingers proved to be worn trigger tines that required adjustment for stiffer pull.

Dixie, predominantly white, is almost lost against snow whereas the heavily speckled beltons are easily seen under these conditions. I have pleasant mental pictures of a pair of wet beltons—one orange, one blue—shuttling through snowy woods.

Lunch under overhanging rock ledges that offer dry sitting and even dry kindling for a fire.

The rapid temperature drop that follows the setting of the sun on winter hunting days.

A jagged beer bottle that Shadows stepped on in deep snow (you find them in amazingly remote places) that cost him a permanent injury that causes him to go lame after each long day's hunt.

A day when wind and snow had made a Christmas card of the hemlocks. Following a grouse I had missed, we came to an abandoned house. Ruff wheeled in a point so intense he bristled. Like Ruff, my hackles tingled as I maneuvered for the shot but a rusty wire fence kept me from the vantage of the open field where the bird would most likely flush. Feathers, backing, was in line of fire if the bird took a low rear exit. He moved closer, opening up that chance but the bird lay tight. Trying to lean over the fence and walk in simultaneously, I took one step, then a second. The grouse tore out or what seemed solid greenbrier—exactly in line with an apple tree. I took my cap off to him as he pitched for the valley. Happy landing and a prosperous New Year! And thanks for a point I shall never forget.

Ruff's Last Grouse

It is fitting that a very old sportsman's last grouse should be on a winter's hunt. Anno Domini is not pleasant to contemplate except in distant views when he lays his hand on your favorite dog. But Ruff, in his wisdom, lived each day to its fullest and on New Year's Day, 1962, was winding up his fifteenth season on grouse at the age equivalent of one hundred and three human years.

The morning dawned under a load of snow that weighed down every thicket. Working Ruff with his daughter, Dixie, Kay and I were happy when he got to the first bird shot and made a beautiful retrieve, sitting in his stylish manner to deliver in spite of the cold, cold snow.

Birds were concentrated in snowy

brush heaps as they frequently are in this kind of weather. As we worked the log roads, Ruff made small sorties, not content to remain on the path, but the snow-clogged brush was too much for anyone but Dixie. There were two more flushes and then I came to Ruff on point. The bird didn't give me very much—a quartering shot well out—but I had to try, missing both barrels.

Where the path dipped into large rocks I found Ruff pointing again. Determining that the bird was not immediately in front of him, I waved Dixie around and waded in while Ruff still held. The grouse flushed at me so directly I waited to see if it was going out or coming in. It swerved to my right and went down in a cloud of feathers closer than I had realized. Dixie delivered the limp grouse, a victim of the tight pattern.

It has been a long time from Old Hemlock Ruff's first experience on grouse as a seven-month-old puppy in 1947 until this, his last grouse—years which were good to both of us. Each man, during his shooting life, deserves one perfect dog. And though losing him is hard, it is part of having known a rare experience.



RUFF BRISTLES ON A HOT ONE

MOTORISTS ARE WARNED TO WATCH FOR DEER

Several thousand Pennsylvania motorists will probably learn, with regret, that deer don't give a darn about crossing highways this fall. Reports from Pennsylvania Game Commission field officers over the past four years show that October and November are the two top months in accidental highway death of deer. Last year 1,168 deer were reported killed by vehicles in October. The figure jumped to 2,346 in November.

Harvey A. Roberts, Chief of Research, says there is good reason for the heavy toll during these two months. This is the period when the mating season reaches its peak. Also, the hunting seasons get into full swing, first with the archery season in October and then with the small game season during November. Deer are often startled into full flight across highways by the shooting and hunter activity.

Roberts cautioned motorists to be especially careful during this period. He urged drivers to stay alert and be particularly watchful for deer crossing highways at dawn and dusk. "These are the two major periods of deer movement," Roberts said, "although they are active throughout the night and may be forced across highways at any time. If you see deer ahead of your car or truck, either on the pavement or on the berm, slow down and watch for other deer which may also run across the road from the forest or fields on either side. Often, it's the second or third deer which causes the damage, rather than the first one you see."



PGC Photo by Ken Gardner

HOME SWEET HOME to the deer hunter could be this converted bus body. Hunting camps in deer country range from establishments like this to the most modern cabin type buildings.

Hunting Camps—Pennsylvania Style

By Laurence E. Stotz

A SECONDHAND school bus with rust spots showing through the faded yellow paint stands dejectedly on cement blocks at the edge of a wooded slope. A dilapidated stovepipe pokes out of a rear window. The rows of seats that once were alive with noisy school children are missing. Dry snow swirls about the old bus and sifts through a crack where the door no longer fits snugly. A little pile of it rests on the lower step and hides the worn spot gouged out by hurrying feet. The homemade sign over the door identifies the stranded vehicle as a school bus turned hunting camp.

A quarter of a mile down the dirt road stands a new four-room hunting camp with knotty pine interior, a big open fireplace, running water in a kitchen equipped with a stainless steel sink, an electric refrigerator and a bottled gas cook stove. A television aerial pokes above the green asphalt shingle roof, and there are curtains in all the windows.

The contrast between these two hunting camps is typical in the big game country of northern Pennsylvania where camps of infinite variety meet individual tastes and pocketbooks.

Usually they are purely functional in design with all frills eliminated, but they vary from tar paper shacks and old buses to elaborate lodges. Most of them, however, fall in the middle range between these extremes.

Until recent years joint ownership was often the rule. There were several advantages to this. Most hunting camps were built by the owners themselves, and the odds were good that a variety of skills was available under group ownership. The old-fashioned barn raising had nothing on the speed with which a hunting camp could be built by group effort, especially when the builders were racing the first snowfall of the season. When each member had a hand in the construction, he developed a special pride in the camp.

No hunting camp was complete until it had been named. This became its coat-of-arms that identified it and its members. Camp monickers fell into

FROM THE SUBLIME to the ridiculous. That's the range of hunting camps one can expect to find in Pennsylvania. This modern building is quite expensive and for that reason is not classified as a typical hunting camp. *PGC Photo by George Harrison*



well defined classes that reflected, among other things, the hunting abilities of the occupants, domestic difficulties at home, or the peculiar architecture of the camp itself.

"Camp No-Hit-Um," "Camp Hard Luck," "Camp Shoulda-Got-'Em" and "Hunter's Bum Shot Camp" indicate poor marksmanship among their camp members.

Domestic Troubles

Domestic troubles, both real and fancied, may have influenced the use of camp names such as, "Wives Consent?" "The Dog House" and "Pop's Haven."

Camps that are scarcely big enough for a hunter to turn around in are appropriately named "Crow's Nest," "The Hornet's Nest," "Camp Cracker Box" and "Camp Crawl In."

Name signs decorated with actual deer antlers are always popular. Typical trophy-type signs are "Camp Big Horn," "Eight Point Camp" and "Camp Eleven Point." The size and number of points on the mounted antlers, however, seldom measure up to the descriptive names on the signs.

The fact that timber wolves in Pennsylvania had gone down the long road to oblivion nearly a century ago matters little when a group of hunters decide to name their camp after this famous predator.

Trees in the Name

Trees figure prominently among camp names with the pine a favorite. Hunters are often careless in their tree identification, for "Lonely Pine Camp" might stand under a big hemlock.

The veracity of a group of sportsmen in the "Liars' Den Camp" might be open to question when it comes to fishing and hunting success. In other matters they are no doubt entirely trustworthy.

"Life O' Riley Camp" and "Blarney Castle" are typical camp names for the Sons of Erin who hunt in Northern Pennsylvania. Any actual physical differences between the two are negligible, for one man's "Camp" could be another man's "Castle."

Occasionally camps are encountered that either defied naming, or the owners were satisfied with such appellations as "Why Name It?" or "This Is It" on the signs out front.

Before there were good roads into the hunting country of Pennsylvania, hunting camps were remote and difficult to reach. They served but one purpose—as a base from which a group of hunters could scour a given territory for their trophy bucks. Needless to say, a great deal of fellowship was enjoyed at these camps, for all the members usually remained quartered there for the duration of the deer season, but this was usually the extent of their use.

Camp Congestion

Today rows of camps stretching along both sides of surfaced roads are becoming a common sight. Suburbia is spreading into the "big woods" of Northern Pennsylvania, and the "togetherness" from which the camp members have sought to escape has followed them into the hunting country. Camp lots with narrow frontages are forcing their owners to rub elbows with neighbors.

Longer vacations, the five-day week, and increased interest in the out-of-doors among all family members are working subtle changes in the average hunting camp. Curtains are appearing in windows, the high weeds and brush out in front are giving way to carefully tended lawns with flower beds, black tar paper on roofs and sides is being replaced with asphalt shingles, and finished siding. Screened-in porches are being added, and the interiors of camps are being refurbished.

Many hunter groups are breaking up, with camp ownership falling into the hands of single owners. Camp occupancy is no longer confined to the hunting season. Individual families are moving in for summer vacations. On weekends throughout other sea-





sons of the year the camps are often occupied if the weather permits.

While these changes might raise the hackles on some of the old-timers who insist that a hunting camp should be a shack in the woods reserved for hunting only and restricted to male occupancy, they have woefully underestimated the power of women.

Curtains are here to stay in many camps along with conveniences which few of the old school of hunters would have tolerated.

Getting the wives and kids out into the woods pays big dividends. More and more women are donning hunting garb, and many of them are becoming crack shots. If their marksmanship sometimes deflates the male ego, it also serves as a stimulus for "the man of the house" to correct some sloppy shooting habits. Then there are teenage sons and daughters to train to become the hunters of the future.

Develops Interest in Nature

When whole families occupy hunting camps during summer vacations and on weekends, they develop an interest in nature throughout the four seasons. It is not unusual to see a light burning in a camp on a frosty February night and smoke billowing out of a stone chimney as a family group gathers around the open fireplace inside. Snowshoe tracks in the snow indicate the exact route that they have followed on an afternoon hike that took them deep into the forest.

On a weekend in early spring they return to feel the excitement of new life as the bright green leaves of the skunk cabbage unfurled from the black muck and a chorus of "peepers" serenaded the dusk.

Summer Cool Spot

The oppressive heat of summer finds them seeking relief in the green "jungle" that surrounded their hunting camp. Under the friendly crowns of maple, beech and wild black cherry they walked a path flecked with sunlight and shadow.

In such a heavily forested area as Northern Pennsylvania, hunting camps are important to the local economy. They become a vital tax base in thinly settled townships. The brief but spectacular influx of hunters during big game season that characterized forest communities a decade or two ago has leveled off as more and more sportsmen spread their vacations over a longer period of time. Trout season, summer vacations, archery season, small game, bear and deer seasons all beckon the cabin owner back to the spot that he had selected as his portion of the "big woods" when he built his hunting camp. Local merchants find that an increasing share of their livelihood is dependent upon these sportsmen and their families.

A family with a hunting camp begins to take roots as it returns year after year to its cabin in the woods. The forest about them becomes as

familiar as the streets of home. When they have learned to identify trees and shrubs that feed and shelter the wild animals of the forest, they are better able to appreciate the need for wise management of our wildlife heritage. When they visit their camp throughout the four seasons, they can see at firsthand the hunger trap that excess numbers of deer can create during the late winter. When brittle leaves coat the ground in the spring and the fall and drying winds can fan a spark into a destructive forest fire, they learn to be careful with fire in the woods.

But not all hunting camps have become family vacation headquarters. Hidden deep in the forest are some that still retain the old atmosphere of male supremacy. There are no curtains behind the shutters that seal off the sunlight for eleven months of the year. Built strickly for big game hunting, both bear and deer, there is no need to remodel them. The old wood-burning cook stoves still function beneath their coatings of rust and grease, and still turn out good meals for hungry hunters. With dampers open wide, their stove pipes turn cherry red and evoke clouds of steam from strings of wet socks, pants, and jackets that hang from rafters overhead.

After having been shut up for months at a time, these old camps have a musty, earthy odor that clings to them and blends in with the smell of mulligan stews bubbling on the tops of the cook stoves.

There are still the friendly card games played under the glare of gasoline lanterns after dishes have been washed, wood brought in for the breakfast fires, and pipes have been lit. The boasting and good-natured "tail twisting" among camp members after long days in the woods can still be heard.

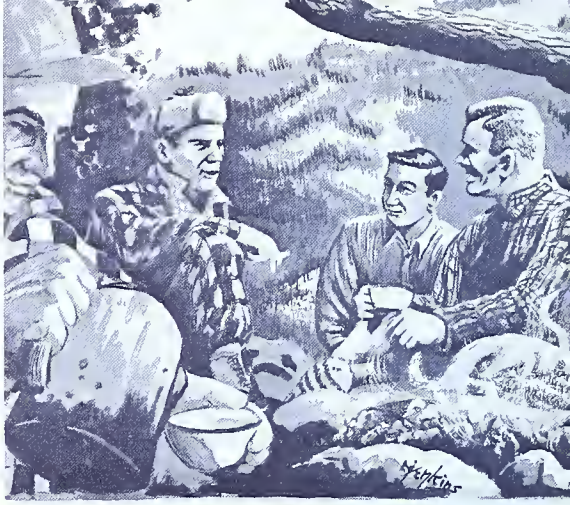
Nearly every one of these camps has an "old-timer" who having reluctantly given up hunting because it is no longer easy for him to get around, still likes to share the comradeship of old-style camp life. As the self-appointed cook and handy man for the gang, he relives his hunting experiences without traveling beyond the wood pile.

Whether the hunting camp of today is an old school bus or a fancy lodge, and whether it is a camp for men only or a place to bring the family matters little. Each continues to play an important part in the "big woods" of Pennsylvania; in the local economy, in the annual harvest of wildlife and in wholesome recreation for those who seek to escape from the tensions of town and city life.

YANKEE INGENUITY is responsible for a hunting camp setup like this. The old trailer body with a screened-in front porch provides enough of the comforts of home to be nice. In addition to being popular during the hunting season, this kind of a camp will provide a year-around place in the mountains. *PGC Photo by George Harrison*



Wool for Woodsmen



By Andy Golish

WOOL has been a favorite among outdoorsmen for over 12,000 years. The 900,000,000 sheep in the world today yield some 5 billion pounds of wool. These facts make one point very clear: Wool is here to stay—especially for woodsmen!

In order to completely understand the popularity of wool you should know something of its physical and chemical attributes. This understanding plus the included tips on care will net you greater and longer service from your woolen outfits.

Of the many fine aspects of wool, two factors are deemed most important by woodsmen. One is its ability to repel rain; the other being the warmth wool provides.

The prize paradox of wool is how it can repel rain yet at the same time eventually absorb moisture. It takes an electron microscope to help understand this situation. Since you may not have such an instrument handy at the moment — one costs around 40,000 dollars—I'll tell you what you would see.

The core of each wool fiber is made up of highly reactive protein cells. These cells absorb moisture readily. As a matter of fact, your hunting coat can soak up as much as 30 per cent of its weight in moisture without you having any feeling of dampness or discomfort.

These protein cells, which constitute over 90 per cent of the fiber, are covered with a layer of flat scale cells. These scales overlap each other like roof shingles. But that's not all. The same shingle-like scales are all enclosed within a sheath of membrane. This thin skin is what sheds the water. The only point remaining is how the moisture finally does get through to the enclosed cells. The reason being that this skin or membrane has fine microscopic pores throughout.

Chemical sprays are also available to those who wish to make their woolens even more water repellent. Modern science certainly is making it darn tough for a guy to go out and get an old-fashioned drenching.

That wool is warm is no secret. Here's why. When you go outdoors your wool clothing absorbs moisture out of the air. At first thought this doesn't seem like much of an advantage. Yet actually, this physico-chemical process produces heat. This heat then prevents the surface of your clothing from cooling and helps retain your body heat.

But even more important to providing warmth is the three-dimensional erimp of each wool fiber. The waviness of the fibers causes them to stand away from each other and produce a lofty fabric. Air clings to the surface of these fibers and becomes trapped. In fact, 60 per cent to 80 per cent of the total fabric volume of wool may be air. The "dead" air trapped around the fibers acts as an insulator against outside temperature. When wool is flattened or matted with use, these air pockets are temporarily lost. They are recreated, however, by "resting" or brushing the garment.

Wool itself requires little care. Yet like other outdoor equipment, the more time you invest the more bene-

fits you derive. And with wool, a little effort goes a long way.

A fast job of removing wrinkles can be done by hanging wool clothing in a steamed-up bathroom and then letting them air-dry afterwards.

Hard outdoor use does cause woolen apparel to become matted. Frequent brushings, therefore, are very much in order. These brushings fluff the nap and rejuvenate the face of the fabric. Brushing also gets rid of dirt particles and thereby prolongs the life of the garment. After brushing, hang them in the open air.

If your woolen clothing gets wet—and if you're out in the elements to any extent they will—dry them slowly. Afterwards brush thoroughly. Some knitwear can be shaken out instead of brushed.

Of course wool clothing can be dry-cleaned easily. Yet dry cleaning establishments are somewhat scarce in the big sticks. Don't be afraid of the old soap and water process. Most outdoorsmen fear a hand-washing will ruin their favorite wool outfit. Quite the contrary is true. As a matter of fact, occasional hand-washing will do woolen clothing a world of good—if done correctly! The next time you are catering to your outdoors equipment, get your woolens into fresh and ready condition. Here's how simple it is.

The main rule is to be gentle in your methods. Use lukewarm to cool water. Dissolve the soap or detergent completely (a special cold water soap is made for this purpose); let the garment soak from three to five minutes. Next, squeeze the fabric gently in the sudsy water. Then, rinse thoroughly about three times in cool water. Squeeze out the excess rinse water and hang the outfit to dry slowly. The whole process is as easy as missing a grouse.

You no doubt are still wondering about shrinkage. Soap and water do not shrink wool—it's the excessive agitation that deals the dirty deed. However, hot water does soften wool fibers and makes them more susceptible to shrinkage when handled roughly. When the softened fibers felt, they thus shrink.

If you are gentle in the process, your old hunting coat will turn out good as new. If you aren't gentle, your hound will have a new rug in the dog house.

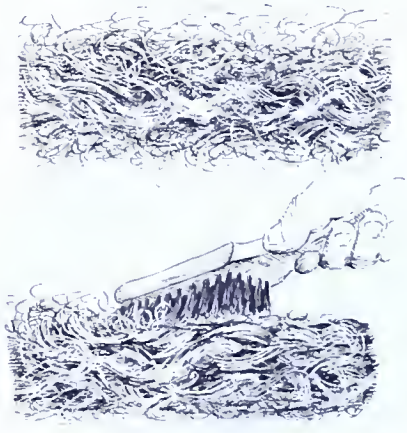
Storage for woolens is not much of a problem. Don't put all of your woolens away because you can use many of the lightweight ones in the summer. They're just the thing to ward off a chill on an early morning hunting jaunt. A rolled-up woolen jacket also makes a dandy pillow when things get slow.

Heavier clothing stored for the next cold season requires some preparations. The garments should be washed or dry-cleaned first. They should also be aired in the sun and brushed. Next, pack them in airtight bags or heavy wrapping paper. If the container is not airtight, use some moth prevention chemical such as paradichlorobenzene—whatever in thunder that is!

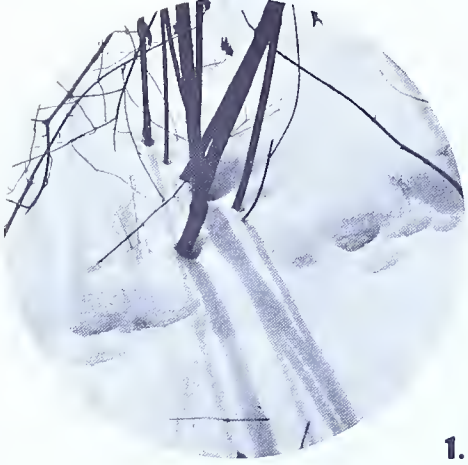
Most dry cleaning concerns provide moth proofing services. Or you may really be lucky and own some of the new chemically treated woolens. These treated woolens are moth proof for the life of the fabric.

Well, these are the facts on the "golden fleece." After you've brushed it and aired it and given it a rest, you then will be at your woolen best!

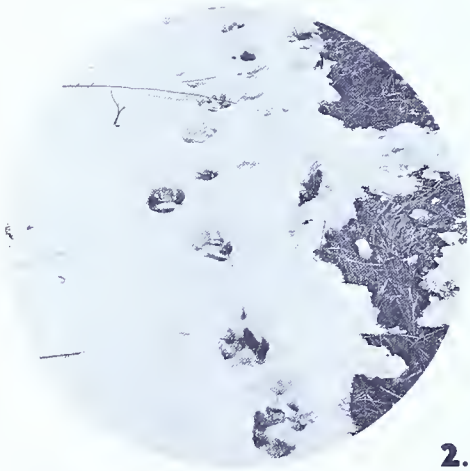
MAGNIFIED VIEW OF WOOL FABRIC
: NOTE AIR SPACES BETWEEN FIBERS



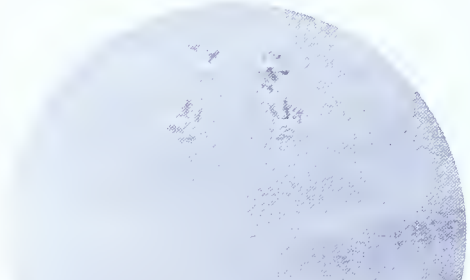
BRUSHING THE SURFACE OF MATTED WOOL REJUVENATES THE FACE – RESTORES AIR SPACES – PROLONGS THE LIFE OF THE FABRIC.



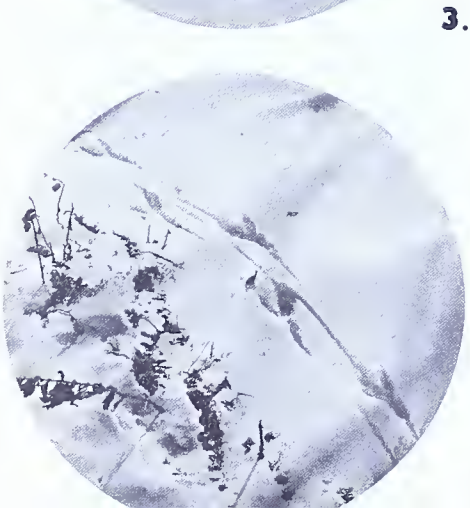
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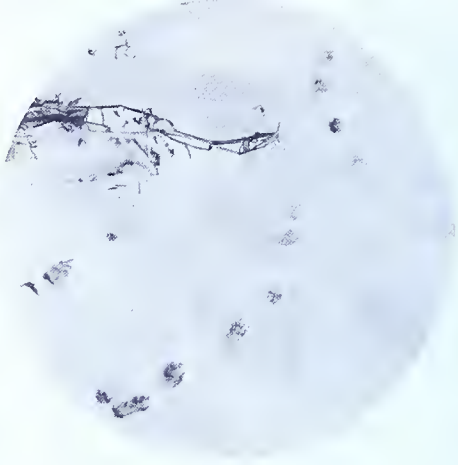
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Who Pas

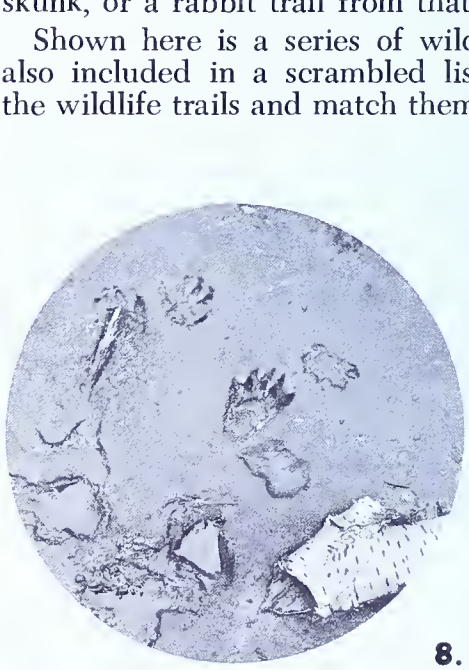
HUNTERS who shuffle noisily amon
wildlife. Yet to pass through this
reveals its tenants. The wood's floor is
wildlife.

These snow trails tell the hunter
search for food and companionship. W
grim death.

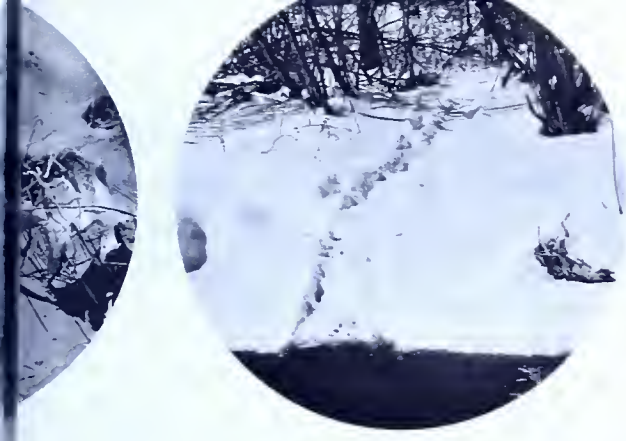
Most hunters have followed these s
encountered in the field? Can you, for
skunk, or a rabbit trail from that made

Shown here is a series of wildlife t
also included in a scrambled list. Pau
the wildlife trails and match them corre

S-c-r



8.



7.

his Way?

ar

es and twigs find the forest empty of
r a winter snowfall, the treeland readily
footprints, printed by a great variety of

spresent, and also reveal the instinctive
vhite carpet are tales of playfulness and

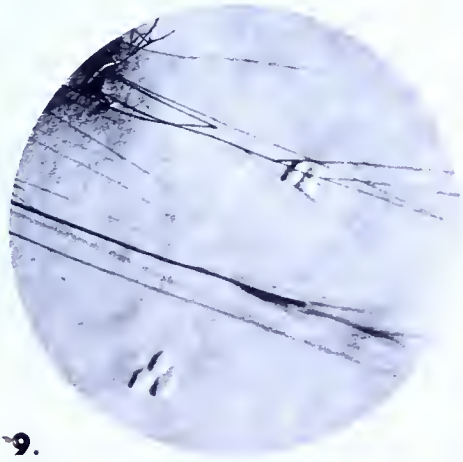
are we able to identify all the tracks
nguish cat tracks from those made by a
irrel?
o identify. The names of the owners are
and check whether you can unscramble
wners' names. (*Answers on page 46.*)

-i-s-t

bbit

bbit

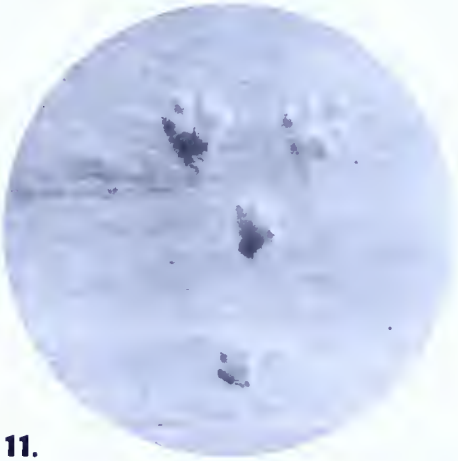
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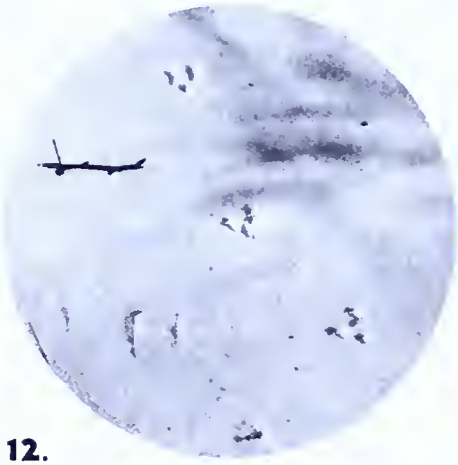
9.



10.



11.



12.



13.





Out-Foxed

ROSS LEFFLER SCHOOL OF CONSERVATION — While running one particular gray fox for a month, on weekends, I thought I had him figured out. Placing myself on this large rock where I could see up hill the way it had been running I listened to my hounds. They came from below and I got all ready. Where did the fox go? In a hole under the rock I was standing on. Sometimes you just can't win.—Student Officer Duane W. Gross.

Got the Green Light

ROSS LEFFLER SCHOOL OF CONSERVATION — One evening early this month, while practicing with our pistols, we were quite surprised to see a small doe deer come dashing across the pistol range between the targets and the firing line. It seems she waited for the green light, because we were between strings of fire and loading our pistols at the time. — Student Officer Gerard W. Wendt.

Grim Dog Damage

LUZERNE COUNTY — On August 22, a Mr. Pretty, of Weston, called my home to report that dogs had a deer down in that area. I was there shortly and found that the deer was a legal buck. He was completely exhausted and could not even lift his head. His eyes were bulging, muscles twitching, part of his entrails were even hanging out, and there were teeth marks on his entire body. He had given all in defense of his life, for there was ⅛ of an acre of this weed patch torn up by the fighting animals. The deer was too far gone and had to be disposed of. It would be a fine thing if we somehow could have all the people who either dump out dogs or let them run at leisure witness this sight which is repeated thousands of times over the state in a year's time. Maybe this would bring about a change of heart. I also had to dispose of another adult female deer which had been run down by dogs and broken a leg. This deer had been nursing fawns which evidently were left to die of starvation.—District Game Protector Robert W. Nolf, West Hazleton.

Favorable Comment

SULLIVAN AND WYOMING COUNTIES—We are receiving a lot of favorable comment from sportsmen on the results of our program of seeding clover and trefoil on roads and trails of State Forest Lands and State Game Lands in Sullivan and Wyoming Counties. All of these plantings are heavily utilized by wildlife. — Land Management Assistant Duane E. Lettie, Dallas.

Acorns Spring Trap

ELK COUNTY—Just as an example to show how much natural food we are blessed with this year, here is something that happened to me while trapping foxes on State Game Lands No. 25, that has not occurred in the past five years. I have a favorite spot under a large oak tree that has always produced several foxes each year. While trapping there this year I noticed that my traps were being sprung but I couldn't figure out why, because there were no tracks around and everything was clean except that the trap was sprung. One morning I found the reason why. A very large acorn was in the jaws of the trap. Several weeks later I was back in the same area and the ground was covered.—District Game Protector Fred H. Servey, St. Marys.

Rare Visitors

WAYNE COUNTY — For three weeks in September and October a large number of Bohemian waxwings have been observed in the vicinity of my home in Dyberry Township. They are feeding extensively on the lush crop of dogwood berries and chokecherries around a small pond nearby and have been seen investigating the bird feeder in the front yard. According to Peterson's "Field Guide" these birds breed and winter in western Canada and Nova Scotia and are rare and irregular visitors to the northeastern United States.—District Game Protector Thomas W. Meehan, Honesdale.

The Rains Came

INDIANA AND CAMBRIA COUNTIES—After a terribly dry summer, the rains came and have helped our food plots considerably, and should provide abundant food for game. Natural food conditions are also fair to excellent in our area.—Land Manager Clifford L. Ruth, Indiana.

Work Must Go On

ELK COUNTY—Charles McAnnich, Johnsonburg Road, related this interesting incident concerning the theft of his lunch.

McAnnich was working on a wood job in the Big Mill Creek area, Elk County, on September 13. At this time he was splitting large bolts of paper wood. As he finished driving a wedge he turned to get his axe, only to find a bear standing there. Startled, but determined, he attempted to try to chase Mr. Bruin away but without success. Instead, Mr. Bruin chased him to his auto which was nearby. McAnnich, deciding he needed a rest anyway, stayed in the auto and finally fell asleep. Sometime later his partners, Ed Roebuck and Frank Polaski, appeared on the scene, only to find his tools scattered about and Mr. Bruin was still there. Being concerned, the men started yelling, awakening McAnnich. The three men, deciding that they had to make a living, again attempted to chase the culprit. Finally Frank threw a large stick hitting Mr. Bruin on the noggin; that did it—he left. Results: One missing lunch, bag and all; upset water jug; a shirt that was hanging nearby chewed up a bit and an interesting experience. — District Game Protector Leo E. Milford, Portland Mills.



Highway Deer Kill Tabulated

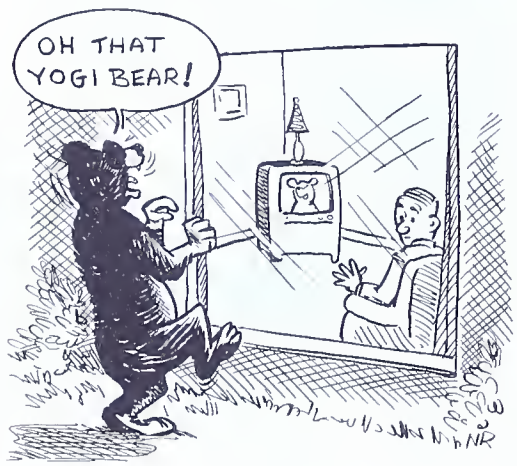
MONROE COUNTY – Below are listed the number of deer by sex, that I do know were killed by vehicles along highways of my district during September from 1956 to 1962 inclusive:

Year	*Doe*	*Buck*
1956	16	4
1957	8	7
1958	6	1
1959	13	12
1960	8	6
1961	15	8
1962	13	5

–District Game Protector John Spencer, Mt. Pocono.

Bear Watches TV

CLEARFIELD COUNTY – Earl Keller, of R. D. 1, Penfield, reports the following: Recently while watching a television program he heard a noise outside his house. He picked up a flashlight and went outside the house to investigate. He flashed the light around the side of the house where the noise came from and to his surprise there was a large bear looking in through the window. Keller let out a yell and the bear ran into the woods. He stated that this was the first time he had ever had a bear for company while enjoying a television program.– District Game Protector Claude B. Klesey, Troutville.



A Good Record

SCHUYLKILL COUNTY–On May 22, 1962, the Brandonville Fish and Game Association received 200 day-old pheasant chicks under the Game Commission's program. On September 11, 1962, the club released 197 birds near Brandonville. I think this is a most remarkable achievement and the club is certainly entitled to a pat on the back. I checked the birds on the day before their release, and they were in excellent condition. Brandonville is not in first-class pheasant range and this should certainly provide area hunters with fine ringneck hunting. I wish more clubs in this area would undertake the day-old chick program to supplement their own hunting.– District Game Protector L. E. Bittner, Tremont.

New Home for Bushytail

INDIANA COUNTY – During a siege of rainy weather early in October, I saw a gray squirrel carry her young from one side of the street to their new home in a tree on the other side. This happened on North Fifth Street in Indiana. Evidently her first home was getting flooded. – District Game Protector Anthony J. Zaycosky, Indiana.

A Vintage Year?

LUZERNE COUNTY–During the month of September, two food and cover employes, Carl Zekoski and Ray Harned, observed the following while working on Game Lands No. 57. Approaching the area in the morning they noted three deer, all bucks, feeding in a food plot. A short while later a female bear and her two cubs were observed passing through. While leaving the area that evening they observed feeding in the plot, five does and 17 turkeys. This was indeed mute testimony to our Game Land practices.– District Game Protector Howard W. Bower, Jr., Wilkes-Barre.



Moving Stack

GREENE COUNTY – Hay stacked around a pole in a field is a common scene in Greene County. But it was a small moving hay stack which made me go over two fences, cross a field and climb a hill. There it was–a TRYING crow shooter, well camouflaged, pushing a small hay stack across a field on a wheelbarrow. He said he was trying to get within shotgun range of some feeding crows, which I had driven away. He also said he would try it on deer, but not in this county. Like they said in Marine boot camp years ago, "There is one in every new platoon." – District Game Protector Theodore Vesloski, Carmichaels.

A Good Teacher

ROSS LEFFLER SCHOOL OF CONSERVATION – My daughter, Pam, has been gathering old bird nests since school started for a display in their classroom. The other day it fell upon me to deliver these to her teacher. As I was standing in the hall talking to the teacher, Mrs. Kraft, who taught Ray Sickles, our Waterfowl Management Agent, when he was in the fourth grade, it occurred to me that our job would be much simpler if we had more teachers like her. She certainly is wrapped up in our wildlife program and has the students enthused, too.–Student Officer Harry T. Nolf.

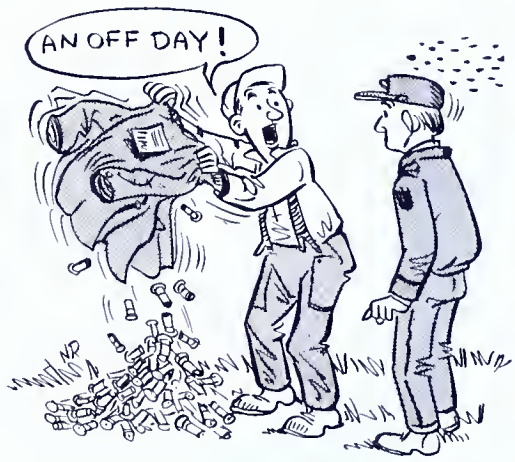
Not Money, but Embarrassment

HUNTINGDON COUNTY – On September 18 several men in the Huntingdon area were apprehended and prosecuted for the illegal killing of a spike buck. One of the offenders, apparently a pro at the game of jacklighting, stated to me and the assisting deputies that it wasn't the $100 fine that bothered him but the fact that his associates (those who are prospects for preferred stock) would rib him for "getting caught." – District Game Protector Richard Furry, Huntingdon.

A Lot of Shootin'

LEBANON COUNTY–Dove hunting has certainly become popular around orchards, wood lots and pine thickets in Lebanon County.

During the first week of the season I observed a nimrod returning to his car at the closing hour with a game jacket bulging at the seams. I identified myself and asked if I could examine his jacket, thinking I would find all kinds and amounts of game. I was much surprised and pleased to find out that he had only seven doves in his possession along with the seventy empty shotgun cases that it took to kill the birds. He reloads his own ammo.–District Game Protector Perry A. Hilbert, Cleona.



Trophy Deer in Philly

PHILADELPHIA COUNTY—Many articles relating to the white-tailed deer state: "A white-tailed deer is a trophy size if antler spread exceeds body width, or if the antlers approach the height of the body from withers to brisket." In accordance with this, we have the nicest trophy deer right here, just a stone's throw from Philadelphia. While on night patrol, near Bethayres, which is approximately five miles from the city limits of Philadelphia, Fish Warden Burkhart and myself saw five deer, each of which had a rack with 10 or more points. As Burkhart stated: "I'd give my eyetooth for that underfed one (being at least 10 points and weighing close to 200 pounds)." — District Game Protector E. F. Sherlinski, North Wales.

Twin White Fawns

CENTRE COUNTY — During the month of September several reports of albinism have been reported in the area. A naturally colored doe deer was seen with twin albino fawns. A white pheasant hen was sighted and an albino gray squirrel was reported. —District Game Protector Joseph L. Wiker.

Just a Bad Day

ARMSTRONG COUNTY — Occasionally a person should just stay in bed! This happened to a farmer friend of mine: It seems that a big buck got tangled up in the electric fence, the wire broke setting fire to the hillside and almost the barn. While they were fighting the fire, the cows went through the break in the fence and into the cornfield of the neighboring farmer and ruined about $150 to $200 worth of corn.—District Game Protector Richard F. Leonard, Rural Valley.



Quite a Swimmer

SUSQUEHANNA COUNTY—Deputy Game Protector Allyn Booth, of Hallstead, was recently notified that a woman had struck and killed a deer at Hickory Grove. Upon investigation he immediately noticed a metal ear tag on the deer requesting that the New York Conservation Department be notified. A check of their records revealed that this deer had been trapped and tagged 1½ years before near Hancock, N. Y. The deer had crossed the Susquehanna and Delaware Rivers and traveled 22 air miles before jumping in front of an automobile.—District Game Protector Donald G. Day, Susquehanna.

High Wire Act

FAYETTE COUNTY — While assisting in the Southwest Division pheasant pickup in Greene County, I observed a technique used by the squirrels in the Waynesburg proper for crossing the highways. A gray squirrel crossed overhead by means of telephone cable from one side of a highway to the other side, slipped half way down a telephone pole and gazed down at my passing vehicle. If I read his mind correctly, he said, "You didn't get me this time." — District Game Protector A. J. Ziros, Connellsville.

HUNTER SAFETY EDUCATION

Eagles Sponsor Hunter Safety Youth Program

William E. Shaver, District Game Protector for Montgomery County, directed a four-hour hunter safety course at the Lansdale Eagles Home for fifty-two youths from the North Penn area on October 10.

Field handling of firearms and home gun safety were taught.

The course consisted of the following subjects: The rifle, its parts, positions, trigger squeeze; the shotgun, names of parts, positions, pointing, lead and swing; the danger and difference between the rifle and shotgun; primary rules of gun safety, hunting in the field, target identification; types of guns, sights and their uses, cleaning of firearms, game laws, farmer-sportsman relations, sportsmanship and care of fires in the woods.



PGC Photo by Ken Gardner

YORK SCOUTS LEARN HUNTER SAFETY. Troop 23, St. Matthew's Lutheran Church in York qualified 33 boys in the Game Commission's Hunter Safety Course and the NRA's Rifle Course. Standing (l. to r.), Dale Grove, Scoutmaster, Samuel Altland, first scout to get certificate, James Morton, Jr., and Harold Hildebrand, both Hunter Safety Instructors, and G. John Martin, District Game Protector.

Range Plans

N.R.A. Range Plans provide useful information, based on successful "in-use" installations, on range construction and layout that can serve as practical guides to interested persons in building similar ranges. Write to N.R.A., 1600 Rhode Island Avenue, N.W., Washington 6, D. C.

Construction of Indoor Rifle and Pistol Ranges	$1.00
You Can Have a Place to Shoot	25c
High Power Rifle Range Plans	75c
Outdoor Smallbore Rifle Range Plans	50c
Outdoor Pistol Range Plans	50c
Range Construction—Part-time and Special	$1.00
Running Deer Ranges	50c
Safety Ranges and International-Type Ranges	$1.00

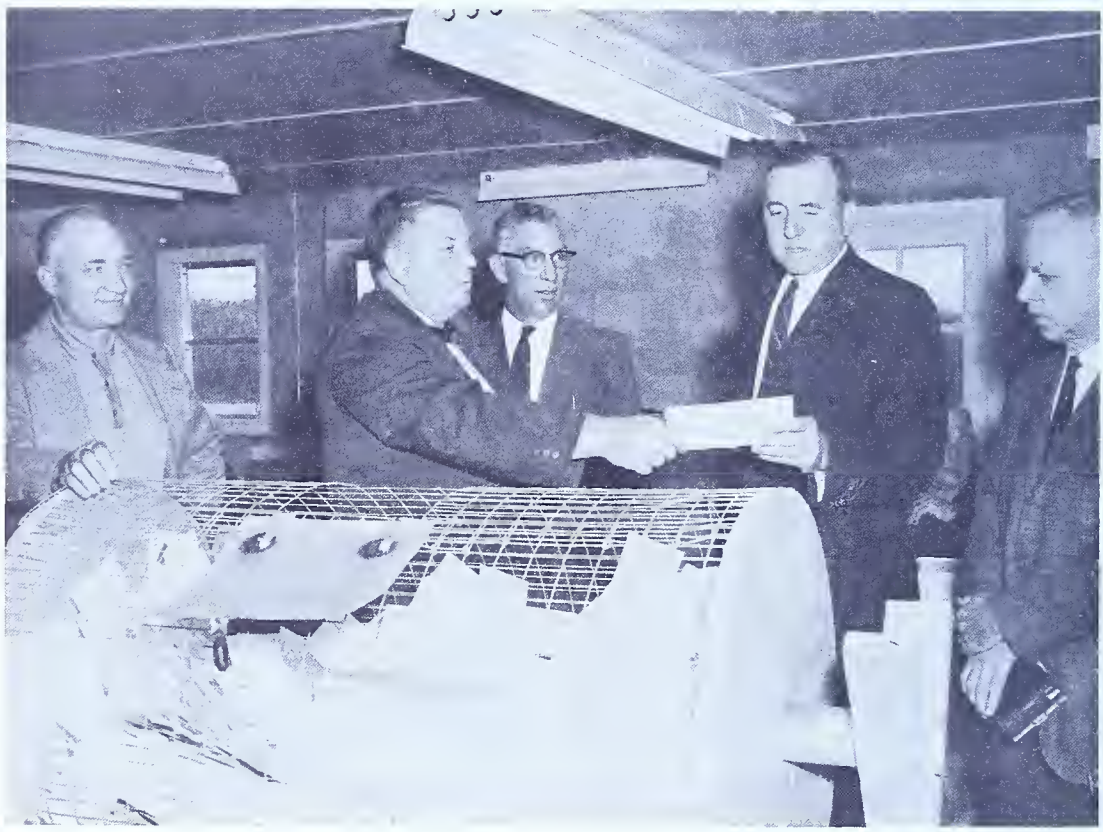
Chester County Course

The Kimberton Gun Club sponsored a hunter safety course for fifty-four young hunters during two weeks in October. Coordinating the safety program was Chester County Game Protector Edward J. Fasching assisted by Deputy Game Protectors George S. Holden, Kenneth L. McComsey and Larry MacNaughton. Paul Glenny, Conservation Information Assistant, Reading, was also assisting along with William Merkey, Junior Rifle Club Instructor.

Pa. Game Commission
Hunter Safety Certified

To Date:
Instructors—3,866
Students—44,910

CONSERVATION NEWS



PGC Photos by Bob Parlaman

THE FIRST GOOSE BLIND RESERVATION IS DRAWN here by H. Paul Wentworth, Guys Mills, President of the Northwest Division, Pennsylvania Federation of Sportsmen's Clubs, who shows it to Game Commission President James A. Thompson of Pittsburgh. The owner of the first reservation is Lee T. Wolbert of Rochester, Pa. Others pictured for the drawing on October 8 are Ray Sickles, Waterfowl Management Agent in charge of the project, James A. Brown, Supervisor of the Game Commission's Northwest Division, and Ken Williams, Meadville Tribune outdoor writer.

One Thousand Names Drawn for Pymatuning Goose Blinds

Leo T. Wolbert, Rochester, Pa., has the honor of being the first man assigned to hunt on the Game Commission's Pymatuning Goose Management Area. The Beaver County hunter's application was the first of 1,000 drawn at random in special ceremonies on October 8 at the headquarters of the controlled shooting area in Crawford County.

More than 5,000 reservation applications were received prior to the October 1 deadline and placed in a large rotating drum. Wolbert's card was the first one drawn by Paul A. Wentworth, Guys Mills, president of the Crawford County Sportsmen's Federation. Other guests who made all drawings for goose blinds included Ken Williams, Meadville "Tribune"; Steve Szalewicz, Oil City "Derrick"; Lawrence Lowing, Linesville "Herald"; Red Best, Green-

ville "Argus Record"; and Paul Blair Radio Station WPIC, Sharon.

All 40 of the goose blinds constructed by the Commission were assigned during the first week of the season which opened October 22. Each successful applicant is permitted to bring three guests of his choice with him. In succeeding weeks, only 35 of the blinds are being assigned in order that the goose flock will not be overharvested. The area is open on Monday, Wednesday, Friday and Saturday of each week from sunrise to noon. The goose season ends December 8, with a daily bag limit on the controlled shooting area of one goose per day. Among the opening day shooters there were sportsmen from Mercer, Allegheny, Crawford, Erie, Butler, Westmoreland, Washington, Lawrence, Venango, Fayette, Dauphin, Northampton, Forest and York Counties.

Forty Lucky Hunters Selected for First Goose Shooting Day, October 22

Name	*Town*	*Name*	*Town*
R. T. Walker	Mercer	Lester Grooms	Saxonburg
Dominic Lubatti	Verona	William Seley	New Castle
Clyde Humphrey	Slippery Rock	Donald Pantanella	Pittsburgh
Michael Balint	Linesville	Joseph Bauer	Butler
Gisela Dalrymple	Meadville	Dino Pantanella	Pittsburgh
Charles Hustead	Pitcairn	Robert Walker	Sharon
Eldon Watson	Koppel	Glen Thompson	Meadville
Luis Fuller	Corry	Edwin Boyer	Rutherford Heights
Herb Leipertz	Butler	Gerald Mills	Millvale
Richard Barton	McKeesport	Edgar Schweitzer	Ackermanville
Barry Meyer, Jr.	McDonald	Ed Brame, Jr.	Pittsburgh
John Benke	Tarentum	Donald Muiry	Meadville
Joseph Gargasky	New Castle	Robert Fuellhart	Tionesta
Rudolph Wilczynski	Coraopolis	Wayne Meyer	Pittsburgh
James Daniszewski	Edinboro	Charles Fuellgraf	Butler
Larry Hart	Cochranton	Albert Whitlatch	Townville
Frank May, Jr.	Washington	Maurice Balling, Jr.	Fairchance
Eugene Hondel	Oil City	Donald Ghering	Franklin
Thomas Whyzel	Uniontown	Eugene Vorpe	Beaver Falls
Joseph Dydek	Mercer	Stanley Lemkelde	Wrightsville

EACH BOX IS A HUNTING DAY and Ray Sickles, Waterfowl Management Agent, calls out the dates as the reservations for the goose blinds are drawn. Deputies and management area workers assist in the project. Exactly 1,000 reservations were drawn.







Photos by Parlaman and Szalewicz

A PIT BLIND AT THE PYMATUNING GOOSE MANAGEMENT AREA (right) is tried out by Robert "Bingo" Shelby, a Game Commission employe on the area. Some of the 40 blinds are made of corn shocks and others are pits. Shooting began on October 22 and continues on each Monday, Wednesday, Friday and Saturday until December 8. Bag limit on the management area is one goose.

12,000 Geese Greet Hunters as Pymatuning Area Opens

More than 12,000 geese were on hand to greet 160 lucky hunters who held reservations to hunt the 2,000-acre controlled shooting area of the Pymatuning Goose Management Area in Crawford County. The season opened at sunrise on October 22 with all 40 pits or blinds in operation.

The Pennsylvania Game Commission's waterfowl project began producing immediate results and by closing time at noon on the first day, 113 geese had been checked through the registration building by successful hunters.

Although all blinds had been assigned during a random drawing of reservation applications on October 5, six men holding reservations for the first day's hunt failed to show up. These blinds were then filled by another random drawing among nearly 100 hunters who showed up one-half hour before starting time at the registration building on a stand-by basis.

Under Game Commission regulations for the Controlled Shooting Area, persons holding an advance reservation are permitted to take three other hunters of their personal choice into the blind with them. All hunters must check in at the registration building at least one-half hour before the starting hour and each party of hunters must vacate their blinds as soon as they bag their geese. The daily limit on the area is one goose per hunter; elsewhere in the state the daily limit is two birds. The area will be open to hunters holding reservations on Monday, Wednesday, Friday and Saturday each week of the season which ends December 8.

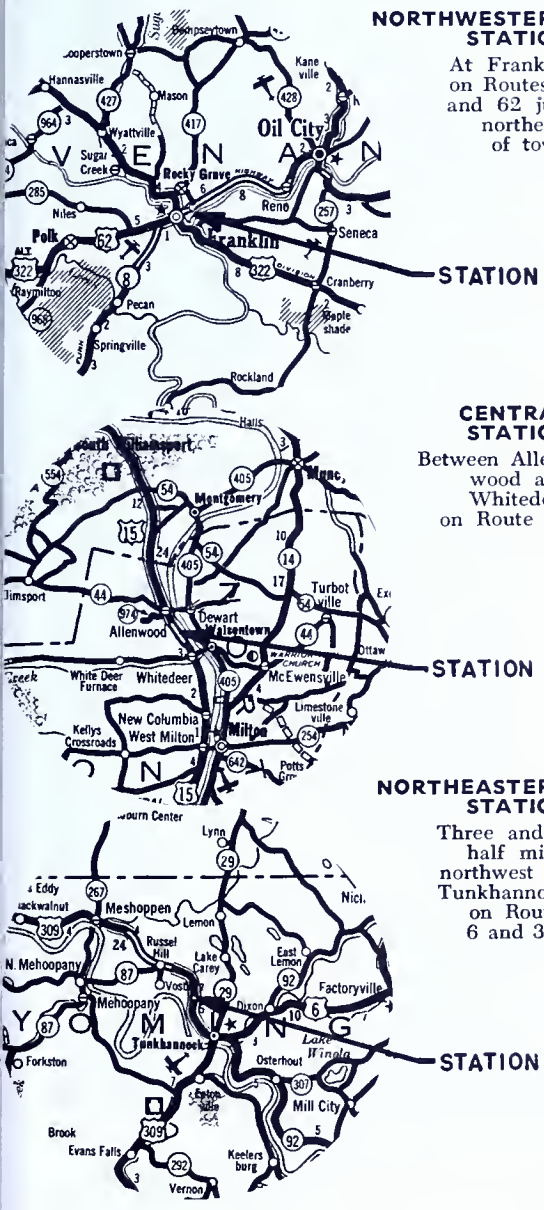
Raw Furs Purchased by Dealers During Season of 1961-62

Species	*No. of Pelts Sold*	*Average Price Per Pelt*	*Total Value*
Muskrat	377,571	$ .73	$275,801.86
Skunks	2,746	.55	1,503.62
Minks	7,999	7.28	58,211.33
Opossums	9,813	.38	3,721.61
Beavers	4,136	10.50	43,576.35
Raccoons	51,062	1.57	80,004.93
Weasels	2,572	.61	1,570.45
Red Foxes	2,967	.84	2,497.04
Gray Foxes	1,504	.46	686.56
Wildcats	3	1.67	5.00
TOTAL VALUE			$467,578.74



PGC Photo by George Harrison

DEER CHECKING STATION at Franklin last season. This was the first station of its kind ever used by the Game Commission. This year there will be two additional stations spread across the northern part of the state. Biologists Lincoln Lang and Steve Liscinsky are determining the age of this deer at the height of last deer season.



NORTHWESTERN STATION
At Franklin on Routes 8 and 62 just northeast of town

CENTRAL STATION
Between Allenwood and Whitedeer on Route 15

NORTHEASTERN STATION
Three and a half miles northwest of Tunkhannock on Routes 6 and 309

What Is a Buck Worth?

Pennsylvania Game Commission Expands Deer Checking Station Program

The buck you shoot this season is worth something in addition to the pleasure of hunting him and the meat he will provide. He can furnish information that will help provide better deer hunting in years to come—that is, if he is examined at one of the Game Commission's three deer examination stations.

If you take your buck to one of these checking stations, he will be weighed; his antlers will be measured and his teeth will be examined to determine his age.

After recording and analyzing this information, the Game Commission will be able to determine the physical condition of both the range and the deer themselves.

Naturally, not all of the thousands of deer killed in Pennsylvania can be examined. But by checking those brought to the examination stations enough information can be obtained to point the way to future herd management. So if you kill a buck, whether it is large or small, and you are close to a station, pay a visit. Five to ten minutes is all the time the examination will take, and you will get added value from your buck by letting it supply facts that will help your sport next year.

These stations will be operated the first week of the antlered deer season: December 3, through December 8. Deer will be examined from 7:00 a.m. until 12 midnight each day.

All stations will be well marked with signs.

Locations shown on the left.

PENNSYLVANIA GAME COMMISSION
RESIDENT AND NONRESIDENT HUNTERS' LICENSES ISSUED BY COUNTY

COUNTIES	RESIDENT				NONRESIDENT	
	1961	DV.	1960	DV.	1961	1960
Adams	8,075	(2)	8,063	(2)	895	768
Allegheny	71,691	(48)	75,855	(46)	196	193
Armstrong	12,928	(10)	13,252	(5)	212	209
Beaver	17,105	(12)	18,230	(11)	437	471
Bedford	9,743	(9)	9,736	(6)	1,060	920
Berks	25,778	(27)	26,111	(25)	74	89
Blair	18,053	(21)	18,210	(21)	305	323
Bradford	10,081	(8)	10,005	(9)	933	986
Bucks	18,097	(13)	18,710	(14)	926	939
Butler	15,495	(19)	15,835	(21)	220	212
Cambria	23,293	(23)	24,142	(24)	516	502
Cameron	1,954	(3)	1,886	(2)	369	368
Carbon	6,917	(15)	6,970	(12)	155	156
Centre	13,966	(5)	13,861	(6)	300	298
Chester	18,444	(10)	18,543	(10)	1,167	1,062
Clarion	9,278	(9)	9,389	(11)	1,318	1,168
Clearfield	15,017	(27)	15,235	(24)	1,034	821
Clinton	8,426	(13)	8,391	(12)	280	251
Columbia	9,267	(3)	9,647	(4)	103	164
Crawford	14,174	(22)	14,478	(25)	1,598	1,527
Cumberland	17,798	(12)	17,603	(12)	99	77
Dauphin	20,625	(32)	21,038	(34)	205	202
Delaware	13,364	(14)	13,336	(13)	282	281
Elk	7,095	(3)	7,159	(3)	577	660
Erie	24,103	(22)	24,734	(21)	1,219	1,243
Fayette	16,940	(30)	18,514	(30)	412	355
Forest	2,241	(6)	2,363	(6)	822	834
Franklin	13,668	(5)	13,647	(5)	754	696
Fulton	2,718	(8)	2,743	(8)	291	295
Greene	4,928	(6)	5,448	(7)	249	255
Huntingdon	8,790	(26)	8,755	(26)	427	402
Indiana	11,970	(9)	12,246	(7)	445	429
Jefferson	10,693	(20)	10,830	(19)	946	927
Juniata	4,199	(1)	4,120	(1)	127	115
Lackawanna	14,631	(18)	14,653	(22)	330	348
Lancaster	31,686	(23)	31,567	(25)	211	250
Lawrence	11,330	(7)	11,819	(9)	2,179	2,040
Lebanon	11,628	(10)	11,669	(10)	65	60
Lehigh	16,392	(12)	16,507	(12)	91	101
Luzerne	28,012	(43)	29,064	(44)	831	795
Lycoming	18,725	(20)	18,513	(14)	399	375
McKean	9,439	(7)	9,520	(8)	1,761	2,173
Mercer	16,625	(7)	16,948	(7)	3,304	3,212
Mifflin	8,495	(11)	8,550	(7)	190	214
Monroe	7,918	(8)	7,869	(10)	754	726
Montgomery	26,452	(8)	26,631	(7)	83	80
Montour	2,438	(4)	2,396	(3)	22	30
Northampton	16,534	(14)	16,817	(12)	870	912
Northumberland	13,383	(15)	13,660	(17)	128	113
Perry	5,471	(3)	5,551	(3)	53	44
Philadelphia	25,991	(16)	25,214	(17)	940	898
Pike	3,982	(6)	3,735	(4)	2,451	2,498
Potter	4,041	(9)	4,031	(8)	1,355	1,476
Schuylkill	19,484	(19)	19,777	(19)	213	217
Snyder	4,645	(8)	4,644	(7)	59	46
Somerset	12,865	(21)	13,405	(17)	633	628
Sullivan	1,996	(3)	1,868	(6)	114	109
Susquehanna	5,079	(2)	5,070	(2)	685	778
Tioga	8,436	(5)	8,012	(5)	874	885
Union	4,643	(5)	4,530	(7)	145	114
Venango	10,683	(13)	10,854	(9)	1,144	1,001
Warren	7,423	(10)	7,376	(13)	1,627	1,934
Washington	21,702	(21)	22,807	(22)	809	752
Wayne	5,299	(10)	5,304	(11)	1,015	1,164
Westmoreland	37,147	(28)	38,274	(29)	237	241
Wyoming	3,343	(1)	3,420	(1)	142	169
York	29,250	(13)	29,033	(11)	1,515	1,365
Dept. of Revenue	1,264	(0)	1,192	(0)	2,517	2,457
Totals	933,346	(893)*	949,365	(880)*	46,699**	46,403**

*The figures in parentheses indicate "Free Licenses" issued to Resident Disabled War Veterans, which are included in column of "Resident Licenses."
**Includes Alien Nonresident Hunters' Licenses as follows: 1960, 27; 1961, 21.

Licensed Hunters Down 16,000; First Drop Since 1950

For the first time in 12 years, the number of Pennsylvania hunting licenses issued to residents dropped last year. Final figures released recently by the Pennsylvania Game Commission for the 1961 license year show 933,364 residents purchased the $3.15 hunting and trapping license, a drop of 16,019 from the all-time record of 949,365 licenses issued the previous year.

During the same period, the sale of 1961 licenses to nonresidents increased to 46,699—up 296 over 1960 and another all-time high. Nonresident hunting license sales have shown a steady increase since 1953 and the sale of 46,403 licenses for the 1960 season was the highest in the nation. Commission officials said they would not know if Pennsylvania again led the nation in the number of nonresident hunters last year until the U. S. Fish and Wildlife Service releases the national summary next year.

In commenting on the 1961 figures, M. J. Golden, Commission Executive Director, said, "It is too early to tell if a trend is developing towards fewer hunters in Pennsylvania. We have had temporary declines several times in the past, either because of wars or in years when general economic conditions did not permit some persons to hunt. The latter situation may have caused the drop last year because the major losses in sales occurred in areas where economic conditions were not good. Over 25 per cent of the loss in license sales occurred in the Pittsburgh area, Allegheny County, where 4,164 fewer licenses were sold. Also, nearly 5,000 fewer licenses were sold in the adjacent southwestern counties of Beaver, Fayette, Washington and Westmoreland while the sales dropped 1,052 in Luzerne County."

Allegheny County, however, again led the state in the number of resident licenses issued with a total of 71,681.



PGC Photo by Joe Chick

ANOTHER SAFETY ZONE Cooperator is signed up here by District Game Protector in Huntingdon County Richard Furry. The cooperating farmer is Glen I. Hartzler of Beach Glen Farm, R. D. 2, Huntingdon. More than a million acres have been opened to public hunting through this program this year.

Chester County Game Protector Commission Revolver Champion

Edward J. Fasching, Downingtown, retained his title of Game Commission revolver champion during recently concluded shooting competition for all Pennsylvania Game Protectors. The Chester County field officer shot a score of 284 of a possible 300 with the service revolver to retain the state championship he first won last year with a score of 285.

Runner-up to Fasching was Roy Trexler, Supervisor of the Commission's Northeast Field Division, with a score of 280. The 1962 President's Trophy, donated by the Commission president, went to the Northeast Division team with a total score of 1,381. The Supervisor's Trophy, donated by all Division supervisors for best average scores posted by all men in a field division, was also retained by the Northeast Division for the fifth consecutive year. Since 1957 when the first matches were held, the average statewide score of all field officers has climbed from 198.01 to 220.29.



POWA OFFICERS FOR 1962-63 are shown here at their fall meeting held in Harrisburg on September 23. The new Pennsylvania Outdoor Writers Association officers are: (l. to r.) Mark Passaro, first vice-president, Will Johns, retiring president, Ned Smith, second vice-president, Roger Latham, new president, Francis Kemp, director, and Jim Varner, director.

Correct Answers from Pages 32-33

1. Rabbit, cottontail (d and g)
2. Wildcat (h)
3. Gray squirrel (j)
4. Crow (e)
5. Skunk (c)
6. Muskrat (i)
7. Beaver trail (k)
8. Raccoon (a)
9. Weasel (l)
10. Opossum (f)
11. Rabbit, cottontail (g and d)
12. Field mouse (m)
13. Deer (b)

A PLUG FOR GAME NEWS. The owner of this hardware store, which is located a few miles northeast of Lancaster on Route 23, is a hunting license issuing agent. In addition to serving the hunters with licenses and hunting equipment, Mr. Bard also gives them an opportunity to subscribe to GAME NEWS. The above advertisement appeared in front of his store in September, much to the surprise of the GAME NEWS staff.

PGC Photo by John Eicholtz



Quehanna Open to Deer Hunters

The Pennsylvania Game Commission is pleased to announce that the Curtiss-Wright Quehanna property in parts of Cameron, Clearfield and Elk Counties is again open to deer hunting as it has been for the past three years.

This included the archery season for deer (October 1 to October 26), the regular antlered deer season (December 3 to December 15) and the antlerless deer season on December 17, 1962. During the antlered and antlerless seasons, any firearms which are legal for deer hunting in Pennsylvania may be used.

Gates on the entrance roads are open from 6 a.m. to 6 p.m., EST, Monday through Saturday during the three deer seasons.

Hunters are not required to check in or out but must leave the area before 6 p.m., EST.

As previously, certain parts of the Quehanna site are out-of-bounds to hunters. These NO HUNTING areas are prominently posted. All hunters are urged to respect the restrictions. The placards are posted around reactors, test cells and buildings.

Driving for deer is prohibited. Archers and gunners may "still" hunt only.

No fires shall be kindled on the Quehanna holding.

Cars must be parked off roads so that traffic will not be obstructed.

All provisions of the Game Law and all rules and regulations of the Game Commission will apply. Commission enforcement officers are patrolling the area.

Quehanna is not open to bear hunting or any hunting other than for deer.

The behavior of hunters during the 1962 deer seasons will determine the future policy for hunting on the Quehanna site.

GAME NEWS



DR. JAMES LINDZEY

Lindzey Named Wildlife Unit Leader

Penn State has a new Wildlife Research Unit leader in Dr. James S. Lindzey, former chief of the Upland Ecology Section of the Fish and Wildlife Service's Patuxent, Md., Wildlife Research Center.

Dr. Lindzey succeeds Dr. Ward M. Sharp, leader at the University's Wildlife Research Unit since 1948. Continuing his work with the Fish and Wildlife Service, Dr. Sharp has accepted a research position attached to the Warren, Pa., Research Center of the U. S. Forest Service.

At age 44, Dr. Lindzey will direct the activities of the Cooperative Wildlife Research Unit, advising wildlife graduate students in their research studies and conducting research and publishing reports of finding at Penn State.

Before going to Patuxent in 1958, Dr. Lindzey was leader at the Virginia Polytechnic Institute's Wildlife Research Unit in Blacksburg, Va., for three years.

A forestry student at Penn State University, Dr. Lindzey completed his undergraduate work in 1940. His Master of Science degree was acquired at Oregon State University in 1943 and his doctorate at Oklahoma State University in 1951.

Dr. Lindzey is married to the former Catherine Ellen Bender of State College. The couple has two sons, James, Jr., 20, and Frederick, 18, and three daughters, Marcia, 16, Leigh, 10, and Catherine, 4. The Lindzeys reside at 215 Woodland Drive, State College, Pa.

Commission Research Chief Roberts Addresses Great Lakes Deer Group

Harvey A. Roberts, Chief of Research for the Pennsylvania Game Commission, spoke at a meeting recently of the Great Lakes Deer Group being held at the Michigan Conservation Department Conservation School at Higgins Lake, Mich. He addressed a group of biologists and administrators from the Lake States on September 27 concerning Pennsylvania's deer management program. Roberts was accompanied by Stephen A. Liscinsky, leader of Pennsylvania's White-tailed Deer Research Investigation, who also took part in the discussion.

The Great Lakes Deer Group holds annual meetings to discuss latest management techniques and research findings on the white-tailed deer. Attendance consists of conservation agency representatives from Michigan, Minnesota, Wisconsin, and the province of Ontario.

Delaware River Duck Hunters Urged to Observe State Lines

Waterfowl hunters who plan to hunt ducks and geese on the Delaware River were urged this year to observe the boundary line between Pennsylvania and New Jersey. In a recently concluded agreement, the Pennsylvania Game Commission and the New Jersey Division of Fish and Game set the middle of the river as the demarcation line above Trenton Falls. Below this point, the line will be the mid-line of the navigation channel. In recent years, waterfowl seasons for both states coincided but this year the Pennsylvania open seasons on geese, brant and ducks start earlier than the New Jersey seasons, thus making it more essential that Pennsylvania waterfowlers do not cross state boundary lines nor shoot at ducks or geese flying or swimming on the New Jersey side of the river.



Photo coutesy THE POTTER ENTERPRISE

FIRST DAY KILL in Potter County. W. Kalt (second from left), a Pittsburgh archer who has never before hunted deer, bagged this sleek four-point buck in Allegheny Township about 10:15 the first morning of the archery season, October 1. With Kalt are Emil Zinsser, Earl Datt and Walt Hahn. Kalt dropped the deer with one arrow at 40 yards with his 42-pound bow.

Bow Hunter Numbers Drop as 1962 Archery Season Opened

Less than 150 deer were bagged on opening day of the 1962 archery season in spite of perfect weather across the state. Reports from Game Commission field officers indicated that the number of bow hunters afield was down at least 30 per cent under the number hunting on the opening day last year. The estimated kill was 144 animals with the highest number reported from northcentral Pennsylvania. Potter County bow hunters were known to have harvested 13 deer to lead the state in opening day kills. Game Protectors estimated the first day harvest for the 10-county northcentral area was 41 animals. Field officers in McKean and Tioga Counties also noted a large increase in the number of nonresident bow hunters afield.

Bow hunter behavior was generally excellent across the state. However, one resident of Forest County caught three archers hunting in his back yard and called the Game Protector after rounding up the safety zone violators. Elsewhere, two bow hunters were apprehended about 11:00 o'clock, Sunday night by Game Protectors in Pike County and arrested for jumping the season and jack-lighting deer. A few cases of hunting after hours were reported in northcentral and northeastern counties, causing Game Commission officials to remind bow hunters the daily hunting hours are from 6:00 a.m. to 5:30 p.m., Eastern Standard Time. Early morning fog in the mountain counties hindered visibility but only two minor accidents were reported, both in Carbon County and both self-inflicted cuts from razor-sharp broadheads.

Game Commission officials anticipated a much better turnout of bow hunters Saturdays and an increase in hunting pressure as the season progressed through October 26.

Gettysburg Archer Reports First Deer of '62 Season

Bernard Rosensteel, Gettysburg, is the first Pennsylvanian to report a legally killed deer during 1962. Rosensteel's big game report card arrived in the Harrisburg office of the Pennsylvania Game Commission on October 2, the day after the current archery season got underway. His deer, an 86-pound doe, was killed in Adams County. The first nonresident to report was Claude E. Parker, Corning, N. Y., who reported taking a small doe on October 2 in Tioga County.

These early reports are but the first of the many thousands that will arrive at the Game Commission offices during the next few months. Commission officials say they are valuable in determining not only the size of the 1962 deer harvest, but also important information about the weight and condition of deer. Each big game hunter in Pennsylvania is required by law to report a kill not later than five days following the close of the season. For their convenience, each licensed hunter receives a postage prepaid postcard reporting form when he or she purchases a hunting license. According to Commission spot checks in past seasons, only about 70 per cent of the successful hunters submit the report, despite the risk of a $5 penalty for failing to do so. This year the Commission is urging every successful hunter to report and warns that those known not to report may be prosecuted for violating the law.

TIPS FOR HUNTERS



PROPER WAY TO DRAG A DEER: If a buck, hook his front feet in his antlers, tie a rope around his neck and both front feet. This will prevent him from catching under every root and obstruction. A doe may be handled the same way by first tying her front legs together above her head. Tie the animal short. In this way your pull will also lift and lessen the drag. — *Reverend George L. Harting.*

NEW BOX NUMBER

The Harrisburg office of the Pennsylvania Game Commission has a new post office box number. All mail should now be directed to the Pennsylvania Game Commission, P. O. Box 1567, Harrisburg, Pa.

Changing Your Address? Don't Forget GAME NEWS

The Post Office will not forward copies unless you pay extra postage and we cannot replace lost copies. SO PLEASE . . . at least six weeks before the first issue to go to the new address, send us your name, new address including postal zone, and your old address. Mail to GAME NEWS, Pennsylvania Game Commission, P. O. Box 1567, Harrisburg, Pa.



PGC Photo by Steve Kish

AMPHIBIOUS LANDING ON HOOVER'S ISLAND as some 75 sportsmen and their families toured State Game Lands No. 233 in Northumberland County on September 15. The visitors were taken to the two islands in the Susquehanna River which are set aside as a refuge and feeding area for waterfowl in an attempt to improve the all over waterfowl hunting in that area. Land Manager William Fulmer and Assistant County Agent Joseph Macialek were directing the tour of the Game Lands.

Commission Approves Meteor Research, Purchase of 245 Acres More Game Lands

The space age finally caught up with the Pennsylvania Game Commission during its meeting in Harrisburg on October 1-2. The eight-member board approved a request from a group of interested citizens to remove part of a supposed meteor from State Game Lands in Fulton County. The amateur scientists plan to determine the nature of the "shooting star" in the belief it may have historical or scientific value.

Continuing its 40-year-old land purchase program to provide public hunting for Pennsylvania sportsmen, the Commission considered purchase of 6 tracts of land. Action was deferred on two of these tracts, but they approved purchase of four tracts covering 245 acres in Snyder, Crawford and Venango Counties at a total cost of $4,630. Approval was also given for Commission participation in the conservation program to be held during the National Boy Scout Jamboree at Valley Forge State Park in 1964.

In other actions, the Commission approved a change in its policy of purchasing ring-necked pheasants from commercial game farms for fall release. This year purchased pheasants were 70 per cent males, 30 per cent females. Effective with 1963 purchases, the Commission will contract for all cock pheasants in order to provide maximum hunting opportunities for sportsmen.

The Commission also approved the opening of 21 propagation areas for deer hunting in 12 counties, abandonment of 10 other propagation areas and primary game refuges which no longer serve their purpose, and the opening of 58 miles of dirt roads on 12 tracts of State Game Lands during the December deer seasons. Finally, the Commission revoked hunting and trapping privileges of 126 persons convicted of serious law violations.

STATE IKES MEET IN YORK





PGC Photos by Ken Gardner

YORK IKES HOST STATE MEET held on the York Chapter's grounds seven miles south of York on September 22 and 23. In addition to the accommodations of the new club house building, tents and trailers were used extensively on the grounds. Among the conservation dignitaries who addressed the convention were Carl W. Buchheister, President of the National Audubon Society, Maurice Goddard, Secretary of the Department of Forests and Waters, Albert Day, Director of the Fish Commission, and Glenn Bowers (right), Deputy Director of the Game Commission.

Nonresident 29-62



PGC Photo by Don Miller

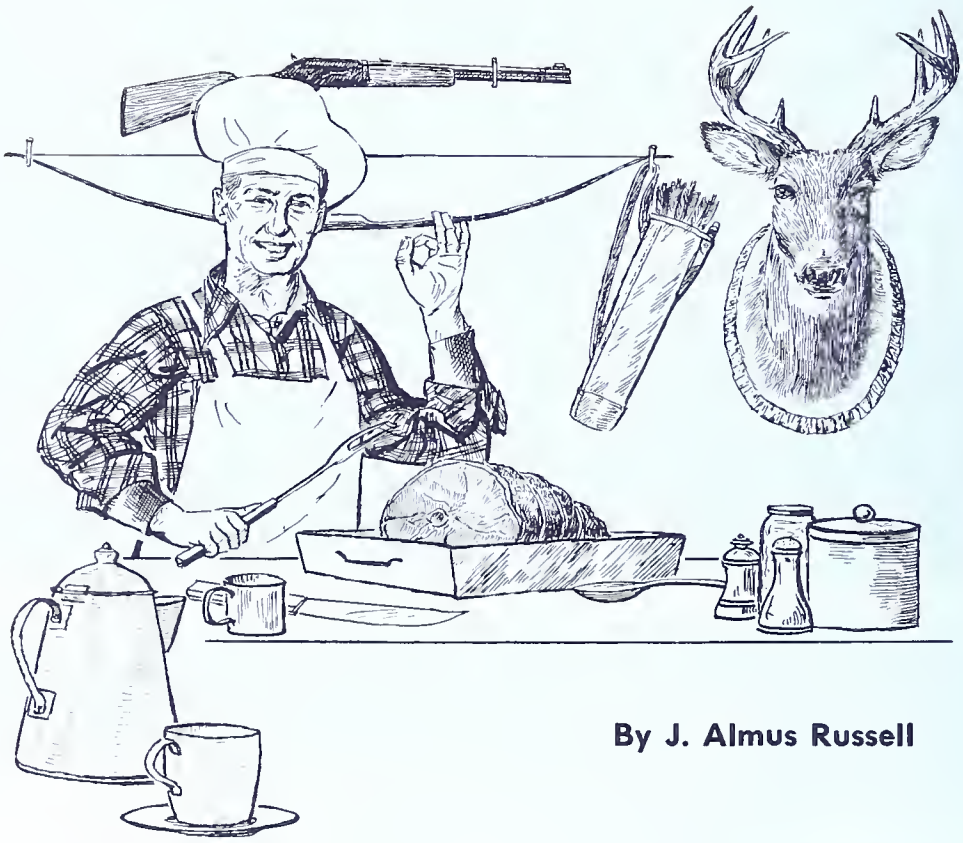
LONG TIME NONRESIDENT is Fred P. Davidson of Vermilion, Ohio, and Lake Worth, Fla., who has hunted in Pennsylvania every year since 1929. Davidson has saved every license except the year 1942 which he lost in an auto accident on his way to his camp in Clearfield County that year.

Discussing Deer Management



PGC Photo by Ken Gardner

DEER MANAGEMENT SYMPOSIUM being conducted at a public meeting in York on October 9 and 10. Left to right are Stan Forbes, Research Biologist, Pennsylvania Game Commission, William M. Carroll, Public Affairs Specialist, Edward P. Farrand, Extension Forester, and Robert G. Wingard, Wildlife Management Specialist, Agricultural Extension Service.



By J. Almus Russell

Big Game Recipes For Seasoned Hunters

BIG game meat differs from domestic meat in flavor. Otherwise the hunter would have little desire to hunt except to kill. Each type of game has its own pleasantly distinct smell and flavor. Each meat has a distinct texture and appearance. Flavor is more marked in older, more active animals; also in fat meat and in meat "ripened" over a long period.

The quality of the flesh is due to the life led by the animal as well as by the food eaten. Most big game animals are sanitary in food and living habits. As vegetarians they are usually particular about the plants, grasses, seeds, fruits, and mushrooms they eat.

Big game meat is at its best after the first frosts. It is at its poorest during the breeding season when the flesh is liable to be *strong* or *high*.

With our present day methods of rapid travel, big game hunting is not localized. Nimrods go to all parts of our continent, returning with the dressed meat under refrigeration. Consequently, the hunter is required to know how to prepare, cook, and serve all varieties of big game.

Young and tender cuts of meat should be cooked by dry heat. This means uncovered, with no moisture added. Some of these methods are roasting, broiling, pan-broiling, and frying. Should the meat be lean, baste it with additional fat to develop and preserve the game flavor. Basting also

keeps the meat moist, making it more tasty.

Old and less tender game should be prepared by moist heat in covered iron or aluminum skillets, with moisture added. Braising, stewing, simmering, and steaming are all popular and practical methods. Game stews, fricassees, and boiled game may be prepared by simmering the meat in hot liquid which partially covers it.

Big game will often provide tough cuts of meat which, when properly cooked, will be just as delicious and flavorsome as the more choice portions. Several methods of tenderizing meat have been found to be easy, effective, and practical.

1. **Aging** or **ripening.** Keep the game for several days in a cold place between freezing temperature and 40 degrees to "season," thereby increasing its tenderness. This procedure partially breaks down the tissues, increasing the acidity of the flesh. If the game has not been "aged," wrap the pieces in paper and store them under refrigeration for several days before cooking.

2. **Pounding, scoring,** or **grinding.** Remove the bone. Use one of the foregoing methods to cut and break the muscle fibers and connective tissues. Pounding flour into round steaks is particularly recommended for a quick tenderizing method.

3. **Freezing.** As the liquid in the meat swells from the freezing process, the tough tissues break mechanically. Hence, placing pieces of game in the deep-freeze is a most desirable method of tenderizing it.

4. **Marinating.** Soaking the game for three days in an acid solution in the refrigerator will allow the liquid to penetrate tough muscles and tenderize the meat. Favorite marinating solutions are one-quarter part vinegar to three-quarters parts water; lemon juice and water, half and half; tomato juice undiluted; and even sour cream if the meat is cut up into small pieces and simmered for a long time. Cooking marinated meat at a low temperature is also effective as a tenderizing agent.

5. **Steam.** Cooking tough game in steam in a pressure-cooker leaves it tender when the cooker is properly timed, pressured, and operated. On the other hand, overcooking makes meat tough, dry, and unattractive.

In all methods of game preparation, cooking, and serving, preserve the game flavor by the wise use of condiments, herbs, spices, sauces, and vegetables as the recipe directs.

DEER

Venison Stew

4 pounds venison
1 cup flour
½ cup bacon fat
1 cup diced celery
1 cup sliced onions
1¼ cups diced carrots
½ cup shredded green sweet peppers
2½ cups water
salt, pepper, paprika

Cut meat in small chunks, season it well, and roll pieces in flour. Brown chunks in bacon fat in iron pot, add the rest of the ingredients, cover pot tightly, and simmer for three hours.

Thicken the gravy with the remainder of the flour. Serve very hot.

Shived Venison With Brown Gravy

Shave off wafer-thin slices of frozen venison and prepare as follows:

1 pound venison shives
1 ounce suet

Fry in frying pan until crisp. Then remove the meat to a hot platter and keep it hot in a warming oven. Make a gravy of—

4 tablespoons pan fat
¼ teaspoon salt
¼ cup flour
¼ teaspoon pepper
2 cups brown stock

Add the flour, salt, and pepper to the hot fat. Stir until the flour is browned. Add the stock slowly, stirring constantly until thick. Pour it over the platter of shived venison and serve at once.

Fried Deer Liver With Onions

1½ pounds deer liver
½ cup flour
¾ cup bacon fat
8 medium-sized onions
salt, pepper, paprika

Wash the liver in cold water and slice it half an inch thick. Roll the slices in flour, drop into a well-greased frying pan, season, and cook until the outside of the slices is brown, the inside slightly pink.

Meantime fry the sliced onions in the rest of the bacon fat with a little water added, season, and place a tight lid on the pan.

When the liver is ready, pour the onions in with the liver and cook all until the liver is done but not tough.

BEAR

Bear Roast With Onion Gravy

Temperature—425 deg. Fahr., for *Time*—3 hours

5 pounds bear haunch
¼ cup melted bacon fat
hot water
3 cups sliced onions
flour
salt and pepper

Season the meat well, place in a covered self-basting roasting pan with one inch of water and the melted fat. Roast until tender as directed. Remove meat from the pan. Then season the gravy, pour in the sliced onions, and simmer until done. Serve with baked white or sweet potatoes.

Broiled Bear Steaks

2 loin steaks, 3 pounds weight, ¾ inch thick
1½ tablespoons butter
2 tablespoons tomato ketchup
1 teaspoon salt
⅛ teaspoon pepper
½ cup boiling water

Wipe steaks clean and trim off and discard all of the fat. Place steaks on hot, greased broiler rack, four inches from the heat. Melt the butter, mix with the ketchup, and brush mixture over top of the steaks. Season with half of the salt and pepper. Broil 6-8 minutes on one side. Turn steaks, brush well with the remaining tomato-butter sauce, and broil for another 6-8 minutes, according to preference for rare, medium or well-done meat. Remove steaks to a hot platter. Pour the hot water over the broiler-rack and scrape the residue into the dripping pan. Remove the rack. Stir the gravy until well-mixed, heat to the boiling point, pour it over the hot steaks, and serve them at once.

Bear Mincemeat

3 cups cooked bear meat, coarsely ground and packed down
2 cups boiled cider
5 cups brown sugar
6 cups tart apples, chopped
2 teaspoons cinnamon
1 teaspoon salt
½ teaspoon ground cloves
½ package raisins
½ package currants
1 teaspoon nutmeg

Mix ingredients in order given, pack in quart jars, pour paraffin over the tops, seal tightly, and keep in a cold place.

BOOK NOTES...

Silent Spring by Rachel Carson

Authoress Carson's SILENT SPRING has created a noisy autumn. Although scheduled for release late in September, advance copies, distributed to reviewers throughout the country, provided the focal point for vigorous debate about the merit and lack of merit of using chemicals to control insects and plants. Countless inches of newspaper and magazine columns already have been devoted to editorial analysis of Miss Carson's charges and conclusions.

Champions of the anti-pesticides, anti-spraying school hail this new book as a long-needed national expose of the hazards and fallacies of chemical biocide programs. Manufacturers of the chemicals, dealers, and the various interests who, in one way or another, have financial stakes in the use of chemical poisons, hastened their side of the story into print. The charges and countercharges have been many, sometimes heated, and always righteous. The virtue or the irascibility of arguments both for and against the whole spectrum of pesticides is judged mostly by an individual's position. There is little middle ground in the great pesticides debate; the superior forces lie with those who are patently for pesticides and those who patently oppose their use.

The person who wishes to familiarize himself with the reasons for the pesticides problem should read this book. The application of pesticides in various insect control and agricultural programs has been accompanied by the death and debilitation of livestock, pets, birds, fish, and other animals. Those things did happen; they were reported by respected and authoritative observers. So pesticides can be a threat to society, and how large a threat they pose to man, his possessions, and surroundings is actually the subject of the debate between those who would and those who would not use pesticides.

SILENT SPRING really does not resolve anything; it apparently is not intended to. Its principal purpose appears to be to inform, to alert, to arouse. Its practical result, it is hoped, would be to help the interested public conclude that far more study and investigation must be done before either side can remotely claim a victory. Taking the long-range view, these problems will be with mankind for years to come. Caution in the use of pesticides is the best policy in the absence of knowledge.

368 x pages. Illustrated with thumbnail sketches. Published by Houghton Mifflin Company, 2 Park Street, Boston, Mass.; 1962. Price $5.



TYPICAL FIRST MORNING of the deer hunting season. Each hunter is full of hope that Old Lady Luck will smile upon him and deliver a beautiful big buck.

Today, as in Days of Old...

Hunt Like a King

By Jim Varner

Photos by the Author

WITH its usual early winter's tranquility, December ushers in the greatest outdoor saga of them all—The Sport of Kings, too commonly referred to as just plain deer hunting. Will we be adequately prepared to meet and enjoy the challenge of the chase? Let us take inventory in order to get the most out of a day or two or even a full two weeks' vacation somewhere within the boundaries of our great Commonwealth.

We will leave the selection of clothing, food and camp to you, but will attempt to add our bit concerning firearms we have found adequate, as well as what is necessary during preseason training to familiarize yourself with the arm you are going to use. Perhaps a careful analysis of the anatomy of our Virginia white-tailed deer may help you score a quicker kill. This is a vital feature of today's mass hunting.



Deer hunting is an ancient sport dating back to primitive man's attempt to supply food and clothing for his family. His tools were as crude as one can imagine and his methods were almost animal-like, but through the use of camouflaged trail pits, snares, spears, deadfalls and other crude devices he matched his wits against our sagacious four-hoofed denizen of the forests. More often he was



NOT A DAMHIRSCH from the Bavarians, but a big Virginia whitetail from Wayne County a few years ago. Dressed weight was 186 pounds, bagged with a Springfield 30.06 using 220 grain S.P. which shattered both shoulders.

unsuccessful in his pursuits and was forced to be content with a porcupine or a lowly mud turtle, but that was his way of life. Our primitive hero had no "thuty-thuty" to clobber said whitetail at 100 yards or more. At that early stage he didn't even have a crude bow and arrow. These developed later, as deer hunting became a sport as well as a source of nourishing protein and wearing apparel. Later, we discovered that in medieval and more modern eras the wealthier, so called, upper class sought to restrict and prevent us peons (common Joes) from enjoying deer hunting because such was only fit for Kings! Therefore, Pennsylvanians, I hereby crown you all "Kings." Here, I suggest you muse through the pages of Sir Walter Scott's "The Lady of the Lake," which is a thrilling masterpiece about 17th century poetry depicting a deer hunt by the nobility in the Scottish Highlands.

Glancing backward 179 years you will find a ruling: Hunting permitted on all lands under Penn's Charter. The same year, 1683, the first bounty was offered on wolves (10 and 15 shillings). Going further, on August 26, 1721, Pennsylvania's first Game Law was enacted by Sir William Keith, Governor of the Province. It protected deer only January 1 to July 1. The fine was 20 shillings. From 1850 to 1885 venison along with other game was placed on free lunch counters of the better saloons in Pittsburgh and Philadelphia. In 1873 dogs were first barred from running deer or elk and in 1895 an Act created the Board of Game Commissioners.

Deer Nearly Extinct

Previous to the passing of the law prohibiting the use of dogs for hunting deer, the population of our grand member of the "Cervidae-Family" almost faced extinction. Terrain like the greater part of our Pennsylvania country does not afford a deer a sporting chance when pursued by dogs. Many sections of the south justify the use of dogs, but such is not the case here. A steady rigid enforcement of game laws has produced tremendous results, despite unfounded objections from the unthinking to the contrary. Modern roads and huge urban housing programs have destroyed large areas of former hunting grounds but we still seem to be able to maintain a deer herd capable of furnishing an annual average harvest of about 60,000 deer.

Real sportsmen are boys at heart, and it is refreshing to enjoy camp life with such a group. They have a way of doing things in a thorough methodical manner that is different from the bug-eyed meat hunter who beams greediness and unethical tactics at the same time posing as a real sportsman. They are always better woodsmen, if they understand their firearms, are skillful shots and are safety minded.

Most Popular Cartridge

Recent checking by our ammunition manufacturers as to what is considered the most popular cartridge for deer hunting shows the time tried little 30/30 giving way to the more power-

ful 30/06. These two cartridges are ahead by a large margin. The 270 Winchester, 300 Savage, 308 Winchester, and 35 Remington show little gain over previous years while the good old 30/40 Krag is slowly being crowded out. The rash of cheap military rifles in 303 British, 8-mm. Mauser, 7.7 Japanese, 7.65 Argentine and others show a decided rise in numbers used. In our state as well as other states where it is allowed, the 12-gauge rifled shotgun slug has really zoomed from almost a nonentity to where it crowded out the well known 32 Special. All of this means little to the fellow who owns one rifle or one shotgun that has brought home the venison year after year, but it does show that the advertising Remington, Ithaca, Mossberg and others are doing with their slug guns is creating a market for them that never existed before.

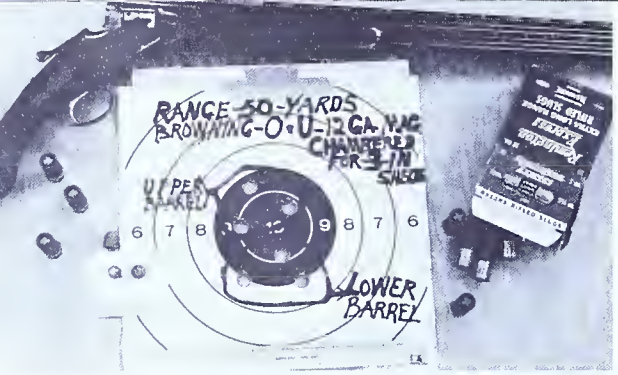
Along with this demand for all-purpose bird guns which will clobber a buck out to 100 yards range comes the announcement of excellent open and peep sights by Lyman, Williams, Redfield and others as well as suitable low-power scopes by Weaver and European makers to help make these scatter guns into satisfactory poor men's rifles. These sights are designed exclusively for most all makes of single-barrel repeating and auto-loading shotguns. Bear in mind, however, that the use of semi-automatic shotguns with slugs on game in this state is prohibited. Tests carefully conducted from sandbag rests prove most all well made shotguns will shoot consistently 3- to 5-inch groups at 50 yards with rifle sights. They are still satisfactory out to 100 yards. What more does the average deer hunter require?

Tight Groups

The three separate over and under Brownings we tested shot amazingly tight consistent groups at ranges to 75 yards with point of impact being practically the same with both barrels. This speaks well for the job of paralleling the tubes. My own personal over and under Browning is one chambered for the three-inch 12-gauge magnum shell. Actually, one could not select a more efficient firearm to give

PIKE COUNTY IN THE 1890's when dogs were allowed and buckshot was legal. Looks like one Colt Lightning Magazine rifle and one Winchester in the crowd balanced by double barreled shotguns.





OVER AND UNDER Browning chambered for three-inch 12-gauge magnum shells. This gun is capable of keeping all shots from both barrels in a satisfactory group out to 100 yards. These guns make terrific double barreled "rifles."

a fast moving old stag a quick one two in thick cover out to 75 yards. Accompanying pictures show the tremendous, shocking, brutal power of these lethal slugs. We have never seen an animal continue in an upright position when hit just fairly well with one. Their prodigious diameter (around 70 caliber) is what makes them so potent.

For comparison as to penetration note the destructive bone-crushing penetration channel of a 180-grain 30/06 Hornaday spire point bullet driven approximately 2,800 feet per second, using H450 ball powder. This bullet lost 60 grains of its weight while traveling through some 13 inches of various pine boards. The rifled slug penetrated slightly over 7 inches, and was striking not far from 2,000 foot pounds at the 50-foot range. The 180-grain 30/06 was striking around 3,000 foot pounds. Both leave little to be desired from a humane deer killing standpoint.

Super-Dupers

My friends who hunt with the new high-speed super-dupers need not feel they are handicapped. It is true that most of the 243 Winchesters, 244 Remingtons, 260 Winchesters, 7-mm. S.&H., new 7-mm. Remington magnum, along with Roy Weatherby's 257 and 270 magnums, are owned by experienced specialists who take pride in doing above average long-distance bagging of game. They use the best of telescopic equipment, load their own ammo with the precision of a bench rest shooter, and hunt mostly alone. The writer used to prefer this type of hunting but today prefers the brand of fellowship that can only be found in group hunting.

The First Day

Tomorrow, as you await the 7:00 a.m., EST, start, remember, you are not a Scot Clansman of importance listening to the ringing call of a pack of blue-blood hounds giving tongue to the trail of a noble highland stag. Also bear in mind you are not high in the Bavarian Alps enjoying the pomp and ritual of German nobility in their search for their "hirsch" or red deer, with chances of seeing a still greater stag they call the "damhirsch." Maybe your reverie is broken suddenly by the echoing report of the first shot fired this first hour of the new hunting season. Now you are alert and immovable. Down the canyon below you comes three sharp "k-a-pows" in rapid succession which sounds like one of your party's 32 Specials or someone else using a slide-action Remington 35. Over the ridge back of you a rolling barrage of at least 15 shots lets you know some unfortunate buck has just run the gantlet of a lineup of trigger happy fellows. You are glad you are out of their sight. The big game hunt is on in full swing in Penn's Woods, the air is cold and frosty and you snuggle deeper in your warm thermal clothing. The shooting continues and varies in intensity until two fleeting hours have passed. Immovably you continue to stand with your rifle cradled over your left forearm despite a trace of chill creeping up your legs. Then things happen fast as you catch a sign of movement silently and cautiously approaching through the laurel and second growth hardwoods on the little plateau to your left. The movement is definitely deer legs, now trotting, now standing as the animal pauses to listen or harks to the hated scent of man. The wind is directly in your face as you slowly



ENERGY TESTS made at 50 feet using a Remington ADL 30.06 loaded with the Hornaday 180 grain spire point bullet driven about 2,800 f.s. Note the tremendous wound channel through 13 inches of various pine boards. Bullet lost 60 grains weight. Now note the wound made by the 12 gauge rifle slug as it smashed through 7½ inches of the same wood. Both firearms can take care of most any situation in deer country.

raise your firearm to glance through the 4-X scope. Your quarry does not keep you waiting and as you watch his stealthy movement break into great leaps across your front the first thing you notice is a fine set of antlers adorning his magnificent head. In a second the safety is off and as the cross hairs of the 4-X scope races a foot or so ahead of the great gray speeding body you squeeze the trigger. You feel quite sure your aim and timing were right as your time-tested rifle leaps into active recoil. The big body seems to crumple in mid leap and plows inertly nose first into a dense hemlock thicket that would have meant safety in another half second.

As you stand proudly over your trophy no Bavarian "jager" (guide) places a small twig of coniferous tree in your buck's mouth. No hunter's branch or "schutzenbruch" is presented to you on the blade of the "jager's" knife after being dipped lightly in your trophy's blood. Neither do you wear said branch on the right side of your hunting cap. A nice ritual you will say, but you are in Penn's Woods — not the Alps. You have downed a sagacious American "hirsch" in terrain just as spectacular and you are free to do as you please. As your pals gather to compliment your prowess I am sure all of you will agree, you are enjoying again THE SPORT OF KINGS as Americans with no nobility restrictions. Let's keep it that way.

OUTSMARTED

By Tom Forbes



I PARKED the station wagon on the berm of the forest road, shut off the engine, and carefully searched the woods in my immediate view. On occasion, I had seen deer in the vicinity and if alerted they could spread the alarm over the entire area. The only movements that caught my eyes were a few leaves drifting slowly down to the ground. Satisfied, I slung my binoculars around my neck, picked up the bow with its attached quiver holding three bodkins whose razor-sharp edges were completely covered by a metal pocket, checked to make sure that I had a finger tab, an arm guard and an extra bowstring, and stepped from the car. Car manufacturers should build car doors that close silently. In the quiet woods the noise

of a slammed door sounds like a pistol shot and the unusual noise serves notice to the deer that extra vigilance is necessary for safety. Carefully I forced the door to the closed position, turned the key in the lock, made a final mental check of my equipment and started down a lane that runs through the woods to the site of an abandoned orchard which in years past was part of a prosperous farm.

Glassed the Area

It was several hundred yards to the orchard and since it was early in the afternoon I paused frequently to glass the area for signs of deer. They normally would not be moving into the orchard until later in the day but I wanted to get to my blind without being observed.

The old orchard is about eight acres in extent and shaped like a banana. The lane follows the inner curve of the orchard and separates it from the woods. As the end of the orchard came into view I stopped and carefully glassed the area. The apple trees are old and gnarled, many of the limbs are broken and the trunks bear the claw marks of bears.

Nothing in sight, so I walked along the lane parallel to the orchard to its midpoint. Here, just off the lane and in the edge of the orchard, the crumbling stone walls of a small structure surrounded a slight pit or depression in the ground. The old stone walls were about knee high and formed a circle approximately eight feet in diameter. This was my blind. It commanded a view of the orchard in both directions with the opposite side about 100 yards away.

It was only 3:30 p.m. and I had managed to get into position without to my knowledge alarming any game in the vicinity.

An hour passed quietly and then a movement at the edge of the woods on the far side of the orchard caught my eye. I focused the glass on the spot and saw a bear with a small cub ambling along the edge of the woods in the shadows of the trees. They did not come out in the opening and shortly disappeared in the timber. I laid aside the glasses and relaxed for a few minutes at a time; rising to my knees at intervals to scan the orchard as deer should be coming in to feed.

To my right, extending from a few feet beyond the pit was an area covered by waist-high grass, browned by the frost and extending along the side of the orchard for about seventy yards. Immediately beyond this expanse of grass was a single apple tree only a few feet from the edge of the lane bordering the woods at my back. As I raised to my knees for another look the scene had changed. A nice young doe, dark brown in color, and butter fat, was standing under the apple tree munching apples. Apparently this was her daily habit as she had been there on the previous day and stayed in the vicinity until the legal shooting hour passed. I settled back with my bow across my knees and an arrow nocked in the string deciding to ignore the young doe as I had done on the previous day on the chance that I would later get an opportunity to try a shot at a buck. Several minutes later I took another look. The doe had wandered in my direction until she reached the edge of the high grass. To my left front about one hundred yards away two more does were in the apple orchard. Things were beginning to pick up and in spite of my resolves, tension began to build up as it always will when deer begin to move into your vicinity. Past experience told me that does appear first and if everything appears safe the buck will make his appearance. The rut had not started so the bucks were alone but they depended a lot on the does to warn them of danger.

Waiting a few more minutes; it was increasingly difficult for me to stay concealed and not be able to see what was happening in the orchard. Again I raised to my knees; the two does



were still out under the apple tree on my left front but the small doe was nowhere in sight. I looked elosely and decided that she had continued her progress in my direction and was now hidden in the high grass. She could be coming to the apple tree next to me. I hoped that she would not approach close enough to wind me or see my movements as I raised to my knees. Glancing at my wrist watch I saw that it was 5:10 p.m. Whatever good fortune would fall to my lot had to transpire in the next twenty minutes. For the umptieth time I eheeked my bow, brushed away a few twigs from under foot and waited. I had that doe on my mind and hoped that she would not come too close to my blind. She could spoil my ehanee for the rest of the evening.

As I sat there contemplating this possibility I caught a movement just over the top of the stone cnclosure on my right. Suddenly there came into foeus the back of a deer. Only about three inches showed and the hair was dark brown in color. Oh Oh; here's that doe and I'm in a fine pickle. The deer was not six feet from where I was sitting and time was running out. What should I do? I could settle for a doe. She was a niee looking animal when I saw her at a distance; or I could sit quietly and hope that she would move on out under the apple tree. She just might not discover me and a buck might decide the area was safc and eome in to feed. Undecided, I just could not make up my mind. In what seemed an eternity but was in all probability only a matter of seconds the issue was taken out of my hands and decided for me.

The deer's head had been lowered while she (Notice I'm thinking *she*) was feeding. In an instant the whole situation changed. The deer raised its head and I was looking straight into the face of a six-point buck at a distancc of about six feet. That we were equally surprised was obvious. There I sat with my bow across my knees, an arrow noeked in the string, immovable; under the scrutiny of two big eyes. Ears pointed forward the buck and I tried to outstare each other. Any move that I might make I considered worthless. Who would make the first move? I certainly could not hope to escape detection for any length of time as I was in plain sight. I hopcd without conviction that the buck would again lower his head to feed and I could then swing my bow into position for a shot. That opportunity never eame. Suddenly, the buck snorted and spray from his nostrils actually struck mc in the face. As he wheeled and dashed away with his white flag flying I rose to my knees and loosed an arrow in a vain attempt to register a hit. Frankly I never saw the trajectory of the arrow. I was just too upset. Looking over the scene I found that I was now alone in the orchard. The two does were nowhere in sight and I felt that the alarm raised by my buck had ended my chances for that evening. Slowly I strolled back toward my ear and on the way I finally managed a wry smile when I thought of the predieament I had managed to get into.

Moral. Never take anything for granted. Even the obvious.



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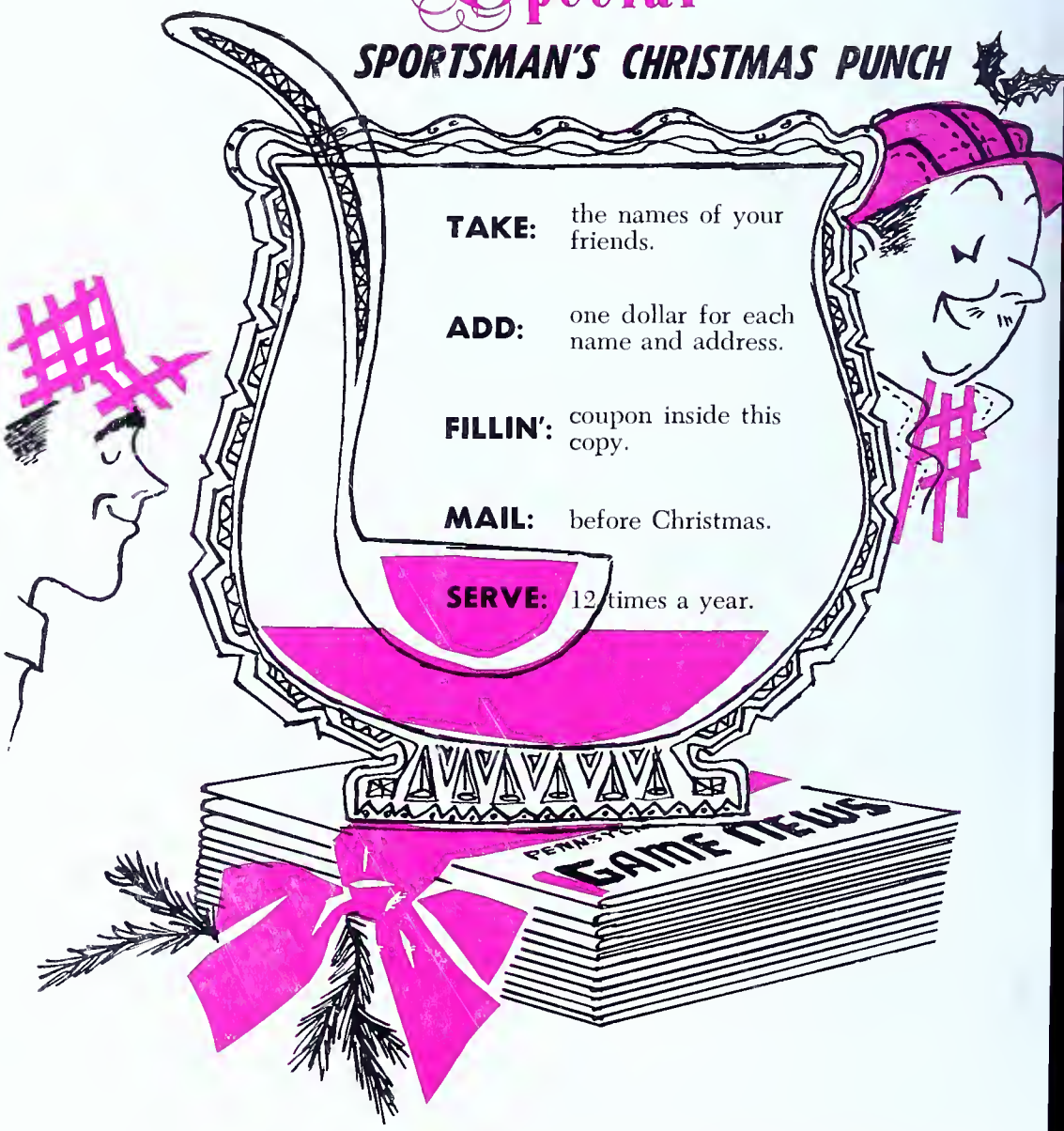
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